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PROCEEDINGS
OF THE
ZOOLOGICAL SOCIETY OF LONDON.

January 14, 1845.

William Yarrell, Esq., in the Chair.

A letter was read from Dr. Clark of Cambridge, describing the morbid appearances which presented themselves on the dissection of a young Orang Outan which died lately in the Gardens.

Mr. Fraser exhibited specimens of two species of Birds from Chile, procured by Mr. Thomas Bridges, Corresponding Member. One was the *Sterna Inca*, Less., which, according to Mr. Bridges, is called "Mouja" by the natives. The other was a specimen of a Little Bittern, *Ardeola exilis*, Bonap., called by the natives "Aspergala."

Mr. Gould exhibited to the Meeting a number of Birds from China, being the first collection forwarded from Amoy to this country.

He described the following new species:—

CORVUS PASTINATOR. *Cor. plumis pilose saturatè purpurascentenigrâ; caudâ virescenti; scapulariis tectricibusque caudæ maculâ semilunari nigrâ ad apices ornatis; rostro tarsisque nigris.*

The entire plumage deep shining purplish black or plum-colour, glossed with a greenish hue on the tail-feathers; the scapularies and upper tail-coverts with an obscure crescent-shaped mark of black at the tip; bill and feet shining black.

Total length 18 inches; bill, $2\frac{3}{8}$; wing, 12; tail, 7; tarsi, $2\frac{1}{8}$; middle toe and claw, $2\frac{1}{8}$.

Hab. Chusan.

Remark.—This species is closely allied to the Rook of Europe, but differs from it in the hue of the plumage, which is of a beautiful purple or plum-colour where the European bird is green; the bill is also straighter and the face much less denuded, the fleshy base of the nostrils being the only part destitute of feathers; the feet and claws are also larger.

MERGUS ORIENTALIS. *Mer. (Fœm.) capite cristâ colloque rubiginoso-rubris; mento albo; corpore superiore, caudâ, alis, lateri-*
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busque griseis; primariis ferrugineo-nigris; secundariis albis; corpore inferiore pallide cervino; tectricibus caudæ albidis.

Female.—Head, neck and crest dark rust-red; chin white; all the upper surface, wings, tail and flanks grey; primaries brownish black; secondaries pure white; under surface cream-colour, fading into white on the under tail-coverts.

Total length 23 inches; bill, $2\frac{1}{2}$; wing, $9\frac{3}{4}$; tail, 5; tarsi, 2.

Hab. Amoy.

Remark.—Nearly allied to the Goosander of Europe, but smaller in size and more delicate in colour than that bird. I believe a male of this bird is in the British Museum; the female is in my own collection, and is the only one I have seen. The specimen in the Museum assimilates as closely to the male of the European bird as the one here described does to the female.

PICA SERICA. P. capite, collo, pectore et tectricibus caudæ saturatè nigris; tectricibus alarum cinereo-cæruleis, ventre et scapulariis albis; caudâ metallicè nigro-viridi; rostro et pedibus nigris.

Head, throat, chest, upper part of the back, upper and under tail-coverts deep black; secondaries and greater wing-coverts shining steel-blue; spurious wing and edges of the base of the outer webs of the primaries shining deep green; inner webs of the primaries white; the tips of the primaries and the margins of the inner webs for a short distance from the tip black; scapularies and belly pure white; tail greenish black, with bronze reflexions; bill and feet black.

Total length about 19 inches; bill, 2; wing, 8; tail about 12; tarsi, $2\frac{1}{4}$.

Hab. Amoy.

Closely allied to the common Magpie, but differs in the wings being blue instead of green, in the rather less extent of the white, and in having a longer bill and much longer tarsi.

Mr. Gould also exhibited to the Meeting a small species of Mammal, which he characterized as

DROMICIA CONCINNA. Drom. maculâ nigrâ ante oculos; corpore supernè et parte exteriore crurum pallidè brunneis; crurum parte interiore et corpore subtùs distinctè albis.

Before the eye a mark of black; all the upper surface, the outer side of the limbs and the tail, pale sandy brown; all the under surface and the inner side of the limbs white; the two colours distinctly separated, or not blending into each other.

Length of the head and body, $3\frac{3}{4}$ inches; of the tail, $3\frac{1}{4}$; of the ear, $\frac{1}{2}$.

Hab. Western Australia.

Very nearly allied to the *Dromicia* of Van Diemen's Land, but distinguished from that animal by its much smaller size, by the distinct separation of the colours of the upper and under surface, and by the absence of any enlargement at the base of the tail.

Also a new Grallatorial bird, which he named

FULICA AUSTRALIS. Ful. capite colloque nigris; supernè griseo-

nigro, subtus fuliginoso; iridibus rubris; rostro cinereo-ceruleo; vertice viridi-albo; tarsi pedibusque griseis.

Head and neck black; all the upper surface greyish black; under surface sooty black; irides bright red; bill light bluish grey; crown of the head greenish white; legs and feet French grey.

Total length 14 inches; bill, $1\frac{1}{4}$; wing, 8; tail, $2\frac{1}{4}$; tarsi, $2\frac{1}{4}$.

Hab. Western Australia.

"Descriptions of species of Bats collected in the Philippine Islands, and presented to the Society by H. Cuming, Esq." By G. R. Waterhouse, Esq.

The following descriptions and notices, added to those given in the Proceedings for May 1843, include all the species of the order Cheiroptera collected by Mr. Cuming in the Philippine Islands; and it is necessary to state, with regard to the descriptions alluded to, that they are all drawn up from specimens preserved in spirit; and although every care has been taken to ascertain the true colouring of the fur as nearly as possible by repeated examinations of the specimens, mounted as they were in clear spirits of wine, the colours may not prove to be exactly as I have supposed.

The following table displays some of the more prominent characters of the species of *Vespertilio* (generally so difficult to determine) about to be described:—

- A. Wing-membrane extending to the distal end of tibia.
 - a. Ears moderate, or rather small, rounded; tragus rather short, rounded at the apex; heel-cartilage short.
 - a. 1. Nostrils separated by a moderately wide space, and opening sublaterally 1. *Vesp. tristis*.
 - a. 2. Nostrils with a narrow space between them (a distinct notch, however, in that space), and opening almost in front 2. *Vesp. Eschscholtzii*.
 - b. Ears large and pointed; tragus long, narrow and pointed; heel-cartilage long.
 - b. 1. Hind-foot very large 3. *Vesp. macrotarsus*.
 - b. 2. Hind-foot small 4. *Vesp. pellucidus*.
- B. Wing-membrane extending to base of toes.
 - a. Ears short, rounded at apex; tragus short, subpointed 5. *Vesp. Meyeni*.
 - b. Ears large, pointed; tragus long, attenuated and pointed 6. *Vesp. rufo-pictus*.

VESPERTILIO TRISTIS. Vesp. vellere molli, nigricanti-fuliginoso; auribus mediocribus, rotundatis; tragus mediocribus arcuatis, apice rotundatis; rostro brevi obtuso; alis angustis.

| | unc. | lin. |
|--|------|------|
| Longitudo ab apice rostri ad caudæ basin.... | 2 | 5 |
| — caudæ | 2 | 5 |

| | |
|------------------------------------|------------------|
| | unc. lin. |
| Longitudo <i>antibrachii</i> | 2 1 |
| ———— <i>auris</i> | 0 $3\frac{2}{3}$ |
| Alarum amplitudo | 13 0 |

The fur is dense in this species, but not long; dense fur extends on to the head, and leaves but a small portion of the muzzle, which is covered with shorter hair: the general colour is sooty black, and the hairs appear to be uniform to the root; those on the belly are slightly tinted with greyish at the point. The incisor teeth are $\frac{2-2}{6}$. The forehead is much arched; the muzzle short and obtusely rounded, very broad and hairy; the lower lip has a narrow transverse naked area at the tip; the nostrils are sublateral, moderately separated, and there is a slight depression between them. The ears are moderate, rounded, but with the upper, or anterior, margin nearly straight; the tragus is curved, and rather obtusely rounded at the point, about $2\frac{1}{2}$ lines in length, and $1\frac{3}{4}$ line in width. The wings are rather narrow, and have the membranes black; they extend to the heel of the hind-foot, which has the metatarsus narrow and long, the distance from the heel to the base of the toes exceeding the toes in length; the toes are shortish and equal, the nails are also short and but little curved; the heel-cartilage is short, bent back, and not easily brought in a right angle with the tibia, as in many of the species of the present genus. The hind-legs are rather long; the interfemoral membrane ample, naked above and below, excepting quite at the base; the tail is enclosed to the point in this membrane; the thumb is moderate.

VESPERTILIO ESCHSCHOLTZII. *Vesp. vellere longo fusco-nigricante, corpore subtus pilis apicibus cinerascentibus; artubus fuscis; auribus brevibus; tragis angustis, ad apicem rotundatis, anticè emarginatis.*

| | |
|--|------------------|
| | unc. lin. |
| Longitudo ab apice rostri ad caudæ basin.... | 2 0 |
| ———— <i>caudæ</i> | 2 0 |
| ———— <i>antibrachii</i> | 1 9 |
| ———— <i>auris</i> | 0 $3\frac{1}{2}$ |
| Alarum amplitudo | 12 0 |

Incisor teeth $\frac{2-2}{6}$; the outermost incisor of the upper jaw is smaller than the inner one. The forehead is much arched, and separated, as it were, from the muzzle by a deep transverse depression; on each side of the head is a naked groove, which runs over the eye. The muzzle is short and rounded, naked at the tip only, the other parts moderately well clothed with hairs: the nostrils open almost in front, and are more than usually approximated; their upper boundary is prominent, and there is a deep groove between them. On the inner side of the upper lip are two small fleshy folds, and some compressed tubercles situated toward the angle of the mouth; the lower lip has a narrow triangular naked area at the tip. The ears are short, broad and rounded, but have the upper margin subtruncated; on the inner side are two transverse ridges; the lower part of the

ear is extended forwards to the angle of the mouth. The tragus is narrow, curved, rounded at the point, indistinctly emarginated on the outer side, and about $2\frac{2}{3}$ lines in length. The wings are rather narrow, and extend along the hind-leg to the distal end of the tibia only. The hind-legs are moderate; the metatarsus narrow and long, the distance from the heel to the base of the toes exceeding the toes in length; the toes are rather short and nearly equal. The interfemoral membrane is ample, naked, excepting at the base; the heel-cartilage is short; the tail enclosed in the interfemoral membrane to the point; the thumb is very small.

Of the species described in this paper, *Vespertilio Eschscholtzii* approaches most nearly to the *V. tristis*; it is much smaller, however, than that animal, has the thumb smaller in proportion, and its colouring is less dark. Among the species of M. Temminck's Monograph our *V. tristis* most nearly resembles, in the form of its head and ears, the *V. blepotis* (pl. 53. fig. 2.); the *V. Eschscholtzii* (of which Mr. Cuming brought home several specimens) is at least one-third smaller.

VESPERTILIO MACROTARSUS. *Vesp. supra cinereus, subtus albicans; auribus longis, angustis, ad apicem acutis, posticè ferè rectis; trago elongato, attenuato, acuto; alis amplis fuscis, ad basin palidioribus.*

| | unc. | lin. |
|--|------|----------------|
| Longitudo ab apice rostri ad caudæ basin . . . | 2 | 3 |
| ————— ad basin auris . . . | 0 | 5 |
| ————— caudæ | 1 | 10 |
| ————— antibrachii | 1 | $9\frac{1}{3}$ |
| ————— pollicis | 0 | $3\frac{3}{4}$ |
| ————— auris | 0 | $6\frac{1}{2}$ |
| ————— pedis postici a calce ad apicem digiti | 0 | $6\frac{1}{2}$ |
| Alarum amplitudo | 11 | 0 |

The fur on the back is apparently dusky grey next the skin, and pale ashy grey externally, and on the under parts the hairs are grey at the base and whitish at the point. The incisors are $\frac{2-2}{6}$; the pair of incisors on either side of upper jaw nearly equal. The forehead is convex, and separated from the muzzle by a transverse depression: the muzzle somewhat produced and pointed, the mesial portion above and in front naked, the naked portion above extending about two lines from the tip, and separated from the somewhat swollen cheeks by a longitudinal groove on each side: between the nostrils, which are widely separated and pierced almost laterally, is a shallow groove. The lips have small scattered hairs, excepting at the tip, where they are naked; on the chin is a naked wart somewhat removed from the apex. The ears are largish and rather narrow, pointed, and have the hinder margin nearly straight. The tragus is narrowish, attenuated, and pointed at the apex. The wings are ample, and the membranes encroach on the back so as to reduce the portion covered with fur to a narrow strip of about half an inch

in width; they extend along the hind-leg to the heel only; the thumb is comparatively long; the hind-foot very large, and having the toes equal, excepting the outer one (according to the natural position of the foot, but the toe corresponding to the inner toe in most other animals), which is rather shorter. The interfemoral membrane is moderately ample, and does not extend quite to the tip of the tail, a portion of about one line in length being free. The heel-cartilage is very long.

In the large size of the hind-foot the present species approaches the *V. Hasseletii* of Temminck's Monograph, but it does not appear that that species has the wings encroaching on the back as in *V. macrotarsus*; the ears are much larger, the thumb also larger, tail longer, &c. The proportions, as compared with those of M. Temminck's *V. macrodactylus* and *V. brachypterus*, differ considerably, though both these species have the hind-foot large; the larger ears, longer thumb, and more ample wing will serve to distinguish it.

VESPERTILIO PELLUCIDUS. *Vesp. vellere longo, pallidè rufo, corpore subtilius cinerascanti-albo; alis fuscis, pellucidis; auribus magnis, apice acutis, posticè emarginatis; trago elongato, attenuato; rostro producto, depresso, subacuto.*

| | unc. | lin. |
|---|------|------|
| Longitudo ab apice rostri ad caudæ basin. . . . | 1 | 8 |
| ———— caudæ | 1 | 9½ |
| ———— antibrachii. | 1 | 3 |
| ———— auris | 0 | 7 |
| Alarum amplitudo | 9 | 6 |

The fur in this animal is long, of a delicate pale rufous on the upper parts of the body, but slightly tinted with grey next the skin; the under parts are ashy white. The incisor teeth are as usual $\frac{2-2}{6}$; the two innermost of the upper jaw are widely separated, long-pointed, and resemble canine teeth; the outer pair are very small. The forehead is considerably arched; the muzzle produced, pointed and depressed, and has a slight concavity above; the nostrils are widely separated, pierced laterally, and have a slight depression between them; the tip of the muzzle is naked. The lower lip has a small, smooth, naked space at the tip. The ears are of a very pale brown colour, large, transparent, pointed, and strongly emarginated behind; the tragus is very long and slender (its length being about $4\frac{2}{3}$ lines, and width at the base less than 1 line), and decreases gradually in width from the base to the point; close to its root, externally, is a slightly prominent angle. The wings are large and supported by very delicate and slender bones, very transparent, and extend slightly on to the toe of the hind-foot. The hind-legs are long and slender; the foot small; the metatarsus shorter than the toes, which are slender and very nearly equal, if we except the one to which the wing is slightly attached, which is distinctly shorter than the rest. The interfemoral membrane is ample, and presents a few scattered hairs: the heel-cartilage long. The tail is long, and enclosed in the membrane to

the point; the fourth vertebra from the base has much flesh about it, which forms a small lump,—perhaps this is accidental. The thumb is slender, but rather long.

This species is remarkable for having long and extremely slender limbs, and for the transparency of its flying-membranes. I could read this writing through the wing-membranes, moistened as they were with the spirit, at a distance of more than a quarter of an inch.

VESPERTILIO MEYENI. *Vesp. intensè rufescenti-fuscus, pilis ad basin albescentibus; corpore subtùs cinereo lavato; brachiis rufescentibus; rostro brevi, obtuso; auribus subtriangulis, ad apicem rotundatis, posticè emarginatis; tragus arcuatis, angustis, ad apicem subacutis.*

| | unc. | lin. |
|--|------|-----------------|
| Longitudo ab apice rostri ad caudæ basin.... | 1 | 7 |
| ———— caudæ..... | 0 | 11 |
| ———— antibrachii..... | 1 | 1 |
| ———— auris..... | 0 | 2 $\frac{3}{4}$ |
| Alarum amplitudo..... | 6 | 6 |

This species has the usual number of incisors ($\frac{2-2}{6}$); the innermost pair of the upper jaw are larger than the external pair, and bifid at the apex. The forehead is moderately arched; the muzzle is broad and but sparingly clothed with hairs, swollen at the sides; two longitudinal grooves mark the usual external boundaries of the nasal bones; and these grooves, at first shallow, become deeper behind, where they are curved outwards towards the eyes, over which is a small fleshy tubercle; the upper part of the nose (between the two grooves mentioned) is almost naked, but a few minute scattered hairs are observed at the tip, and even in front, and along the edge of the upper lip. The lower lip presents a very small triangular naked patch at the tip. The nostrils are rather widely separated, and open obliquely outwards. The ears are short, subtriangular, have the extreme point rounded, and the posterior border slightly emarginated; on the inner side are three or four transverse rugæ. The tragus is narrow, subpointed, and has a notch in the middle of the external margin. The wings are somewhat narrow, and have the membranes of a very dark brown colour, the limbs being of a dusky purplish red tint; the membrane of the wing extends to the base of the toes. The thumb is small; the hind-legs shortish; the metatarsus short, being about equal in length to the toes, which are very nearly equal, the outer one being but a trifle shorter than the others. The interfemoral membrane is by no means ample, brown above and very pale beneath, where pale scattered hairs are observable, especially near the tail; above, this membrane appears to be naked, excepting at the base. The heel-cartilage is moderate, and on the lower or outer side of this cartilage is an obtusely-angular piece of membrane, about 2 lines in length and 1 line in breadth. The tail has the extreme point free.

I have attached to this and one of the foregoing species the names

of two able naturalists who have contributed to our knowledge of the zoological productions of the Philippine Islands.

The *V. Meyeni* apparently approaches most nearly to the *V. tralattius* of Temminck's Monograph, but has the muzzle broader and more rounded, the ears less pointed, the tail, antibrachium and tibiæ shorter, the latter considerably so; the foot is also shorter and broader than represented in M. Temminck's figure of that species. The colouring (so far as one may judge from specimens preserved in spirit) also differs.

VESPERTILIO RUFO-PICTUS. *Vesp. suprâ ochraceis, pilis ad basin cinereis; corpore subtus flavescenti-albo; alis nigrescentibus, areâ magnâ ad basin, brachiis, membrâque interfemorali rufis; auribus longis, angustis, acutis, posticè distinctè emarginatis; tragus attenuatis, acutis.*

| | unc. | lin. |
|--|------|-----------------|
| Longitudo ab apice rostri ad caudæ basin . . . | 2 | 3 |
| — — — caudæ | 1 | 11 |
| — — — antibrachii | 1 | 11 |
| — — — auris | 0 | 5 $\frac{3}{4}$ |
| Alarum amplitudo | 13 | 6 |

Fur moderate; on the upper parts of the body pale grey at the root, and of a delicate yellow colour externally; on the under parts of the body yellowish white, scarcely tinted with grey at the root. The wing-membranes are black, excepting in the region of the bones of the fingers and a large area at the base, at which parts they are of a bright red colour; a straight line drawn obliquely across the wing from the thumb to the heel would mark the boundary of the red basal portion. The small strip of membrane above the arm is red, clouded with black. The limbs and interfemoral membrane are also red, and the naked tip to the muzzle, as well as the ears, are very pale flesh-colour. The hinder toes are dusky at the tip.

The forehead is but little arched; the muzzle is produced, but somewhat rounded at the tip, which is the only part which is naked, and even here a few minute scattered hairs are observable in the middle. Above the nose are two longitudinal grooves. The lower lip has a semicircular naked space at the tip, and a tubercle is observed between this point and the throat. The nostrils are lateral, and the space between them is slightly depressed. The ears are long, rather narrow and pointed, and distinctly emarginated behind. The tragus is about $4\frac{1}{4}$ lines long, narrow, attenuated and pointed. The wings are very ample and extend to the base of the toes. The thumb is long; the hind-legs moderately long; the metatarsus shorter than the toes (claws not included), and these are very nearly equal. The interfemoral membrane is moderately ample, well clothed with hair at the base, and a few longish scattered hairs are observable on other parts, especially on the upper surface. The heel-cartilage is long, extending to within about four and a half lines of the tail.

This species very much resembles the *Vespertilio pictus* of Pallas, but is much larger, and differs in the form and proportions of its ears.

TAPHOZOUS PHILIPPINENSIS. *Taph. vellere brevi fuscescente vel castaneo, corpore subtùs pallidiore; pilis ad basin albescentibus; auribus mediocribus.*

| | unc. | lin. |
|--|------|------|
| Longitudo ab apice rostri ad caudæ basin | 3 | 1½ |
| ———— caudæ | 0 | 8 |
| ———— ab apice rostri ad basin auris | 0 | 5 |
| ———— auris | 0 | 6 |
| ———— antibrachii | 2 | 7 |
| ———— tibiæ | 0 | 11 |
| Alarum amplitudo | 13 | 6 |

This species approaches most nearly to the *Taphozous saccolaimus*, but differs in being considerably smaller, in having the muzzle shorter and more pointed, the ears larger, and the feet considerably smaller; the colouring moreover is different. It agrees with *T. longimanus* in having no throat-pouch or nakedness at that part, but differs in its proportions, &c.

The fur is short and by no means dense, nearly white next the skin both on the upper and under parts of the body; on the upper parts the hairs have the visible portion tipped with reddish brown or chestnut colour, sometimes brown. The under parts are always of a paler hue than the upper, and sometimes almost white, merely suffused with pale chestnut-brown: on the throat this colour is usually more intense. The wing-membranes are brown, sometimes dusky; the interfemoral membrane assumes a paler hue beneath.

The head, viewed from above, presents a triangular figure, of which the tip of the muzzle forms the apex, and is somewhat acute; the nose is slightly prominent; the nostrils terminal, and but slightly separated; the upper lip terminates in a point; the under lip is somewhat swollen at the extremity, and a largish transverse swelling or tubercle is observed below the chin. The ears have the anterior part running on to the forehead, but separated by a space of about two lines, which space is occupied by the deep frontal pit; they are of moderate size, perhaps might be called rather large; the lateral and anterior margins meet so as to form nearly a right angle; on the anterior margin, which is thickened, is a series of pointed tubercles; the lateral or outer margin is very slightly emarginated, and on the inner side numerous transverse small folds or ridges are perceptible; the point of the ear is narrow, but rounded. The tragus is scarcely 2 lines in length, and about 2½ lines in width, rounded at the apex and contracted at the base. The tail is enclosed in the interfemoral membrane rather less than one-third of its length. The interfemoral membrane is about eleven lines in antero-posterior extent, naked beneath, slightly hairy above to the base of the free portion of the tail, which has a few long scattered hairs. The feet are almost naked, having only a few scattered hairs. The limbs are of a pale dirty flesh-colour.

The teeth most nearly resemble those of skull fig. 11. pl. 60. of Temminck's Monograph, but the incisors are more expanded at the apex than represented in that figure, and very deeply notched. The

formulae are the same, viz. incisors, $\frac{0}{4}$; canines, $\frac{1-1}{1-1}$; molars, $\frac{5-5}{5-5}$; the first false molar of the upper jaw is small and almost hidden by the gum; the second distinct; both first and second false molars of lower jaw are distinct; the latter is most elevated, but the foremost is the largest. The palate has numerous well-developed transverse ridges, seven in number, if we commence from between the canines, in front of which are two others less distinct; the third, which is between the false molars, is most developed. The tongue is thick, but pointed at the apex, and presents a triangular transverse section, extending in its ordinary position to the incisor teeth, which on the inner side are covered by the gum up to their points.

Besides these, and the Philippine Island Bats noticed or described in the Proceedings for May 1843, I have to add, as also forming part of Mr. Cuming's collection, a species of *Nycticejus* which agrees most closely with the *N. Borbonicus*; this and the *Taphozous Philippinensis* appear to be extremely abundant in the Philippine Islands; and lastly, a species of *Dysopes*, which I feel very little doubt is the *D. tenuis* of Horsfield; it agrees most closely with the detailed description and figure given by Temminck.

January 28, 1845.

William Horton Lloyd, Esq., in the Chair.

A communication was read from Joseph James Forrester, Esq., Corr. Memb., of Oporto, which was accompanied by a donation of three specimens of *Salamandra maculosa*, Bonap., and a Skin of the *Genetta vulgaris*, Cuv., the latter presented to the Society by E. J. Johnston, Esq., Her Britannic Majesty's Consul at Oporto.

Mr. Montgomery read extracts from a letter from Dr. Templeton, Royal Artillery, Columbo, Ceylon, and exhibited to the Meeting a collection of land and freshwater Shells from that island, comprising several new and rare species hitherto undescribed. Amongst others are a new species of each of the following genera:—*Achatina*, *Helix*, *Neritina*, *Ampullaria*, *Valvata*, *Planorbis*, and *Melania*?

"Description of three new species of Shells belonging to the genus *Artemis*," by Sylvanus Hanley, Esq.

ARTEMIS SIMPLEX. *Art. testâ orbiculari-subtrigond, solidâ, sub-inæquilateralî, nitidâ, eburneâ, ventricosâ, concentricè et subimbri-catim sulcatâ; sulcis haud confertis; margine ventrali arcuato; dorsali utrinque declivi, anticè retuso, posticè arcuato; utrâque extremitate rotundatâ; lunulâ haud magnâ, impressâ; areâ dorsali posticâ nullâ.* Long. 1.63; lat. 1.55 poll.

Index Testaceologicus, sup. t. 15. f. 41.

Hab. Panama, St. Elena. Mus. Cuming, Hanley.

The general outline, owing to the abruptness of its slopes, closely resembles that of *excisa*; but in that species the sulci (or rather costellæ) are elevated, the hinder dorsal area is excavated, and the lunule is large and ill-defined. The colour is ivory-white, with usually a zone or two of very pale blue; and, contrary to the other two species, the greatest length is from the beaks to the lower or ventral margin.

ARTEMIS SUBQUADRATA. *Art. testâ suborbiculari, subquadratâ, compressâ, subpellucidâ, valde inæquilateralî, intus extusque albidâ, concentricè substriatâ; margine ventrali posticè arcuato, anticè convexo et sursùm acclivi; dorsali anticè convexo haudque declivi, posticè subrecto et declivi; extremitate posticâ latissimâ, anticâ angustâ; lunulâ magnâ, subobsoletâ.* Long. 1.62; lat. 1.75 poll.

Ind. Test., sup. t. 15. f. 39.

Hab. St. Elena, West Columbia. Mus. Cuming, Hanley.

The peculiar breadth of the posterior side, whose upper or dorsal angle is horizontal, or even ascending, the freedom from incurvation and abrupt slope of the front dorsal line, and the scarcely defined

lunule, concur to render this rare shell strikingly different from any known species in this genus.

ARTEMIS SCULPTA. *Art. testâ orbiculari-subquadrata, magis minusve ventricosa, solidiuscula, inæquilaterali, subnitida, sordide albidâ aut albido-lutescente (nonnunquam pallide livido-fuscescente alboque marmorata), concentricè sulcata; striis radiantibus, sulcos confertissimos anticè (plerumque etiam posticè) decussantibus; sulcis medio subimbricatis, ad utramque extremitatem lamellosis; margine ventrali subarcuato; dorsali posticè convexiusculo vixque declivi, anticè retuso et paulò declivi; lunulâ impressâ, ovato-cordatâ; areâ dorsali posticâ nullâ; natibus haud prominentibus.*

Long. 1.80; lat. 2 poll.

Ind. Test., sup. t. 15. f. 42.

Hab. Australia? Mus. Hanley, &c.

The radiating lines are not always perceptible on the posterior side of the adult, and the concentric sulci in that case appear fimbriated. It is allied to *subrosea* of Gray.

February 11, 1845.

William Yarrell, Esq., in the Chair.

A letter was read from Dr. Dickson (Corresponding Member), dated Tripoli, January 4th, announcing that he has in his possession five Birds of Carthage, *Pterocles guttatus*?, Temm., alive and quite tame, which he would be happy to present to the Society if a means of conveyance to this country could be obtained.

A specimen of *Cancer Norvegicus*, taken by a fishing-boat at the "Silver Pits," eighty miles eastward of Scarborough, was presented by Mr. Ingarfield.

A communication was read from James Stark, M.D., F.R.S.E., in which he advocates the hypothesis that the *Tetrao medius* is neither a hybrid nor a distinct species, but merely an immature male of the *Tetrao Urogallus* or Capercaillie, founding his opinion on the appearance of the *Tetrao medius* immediately after the re-introduction of the Capercaillie into Scotland by the Earl of Breadalbane, and on the fact, that no two species of a genus, however similar they may be in appearance, pair voluntarily while in a state of nature.

Mr. Fraser laid before the Meeting a collection of Birds' Skins which have been presented to the Society by Lieut.-Colonel Owen, K.C.A., of Oporto, containing the following species: viz. *Buteo vulgaris*, Flem.; *Sturnus vulgaris*, Linn.; *Pica caudata*, Flem.; *Garrulus glandarius*, Flem.; *Picus major*?; *Ædicnemus crepitans*, Selby; *Fulica ater*, Penn.; *Spatula* (*Anas clypeata*, Linn.); *Mareca* (*Anas Penelope*, Linn.), and *Larus argentatus*, Mont.

The Secretary called the attention of the Meeting to a specimen of a new species of *Lagomys*, discovered by Bryan H. Hodgson, Esq., Corr. Memb., in the Nepaul district, which he describes as *LAGOMYS NEPALENSIS*. The present species adds a seventh to this most interesting group.

February 25, 1845.

R. C. Griffith, Esq., in the Chair.

"Descriptions of six new species of *Donax*, in the collection of Hugh Cuming, Esq. (Corr. Memb.)," by Sylvanus Hanley, Esq.

DONAX TICAONICUS. *Don. testâ cuneiformi, convexâ, nitidissimâ, solidâ, obliquâ, levigatâ, maximè inæquilaterali, albâ, aut livido-purpurascente, concolore, epidermide flavescente indutâ; margine ventrali integro, magis minusve convexo; dorsali, anticè declivi et subrecto aut subretuso, posticè subrecto et subitò declivi; extremitate lateris antici producti, attenuatâ, rotundatâ; latere postico brevissimo, truncato et infernè obtusè angulato; pube concentricè et profundè rugosâ; natibus acutis, prominentibus; superficie internâ aut violaceâ aut albâ violaceâ posticè fucatâ; dente laterali antico remoto, postico approximato.* Long. 1'; lat. 1.50 poll.

Hab. Ticao, Philippines (Cuming).

Remarkable for its obliquity and the abrupt truncation of the posterior side.

DONAX CULTER. *Don. testâ elongatâ, angustâ, convexâ, satis inæquilaterali, nitidâ, striulis exilibus confertim radiatâ, variis coloribus pictâ (plerumque purpureâ, sed etiam flavâ lineis purpureo-brunneis radiatâ, albâ radiis violaceis aut lividis, aurantiâ et rosâ, sæpè radiis albidis ornata); margine ventrali crenulato, anticè subrecto, posticè convexo; dorsali anticè recto et vix paululum declivi, posticè convexo satisque declivi; latere antico producto, ad extremitatem obtusè rotundato; postico rotundato-cuneiformi; lunulâ ligamentoque angustis; pube striis simplicibus radiatâ; costâ umbonali obtusissimâ; dentibus lateralibus haud remotis.*

Var. a. *Testâ subinæquilaterali; margine ventrali medio subposticè retuso; dente laterali antico, plerumque magis approximato.*

Var. b. *Testâ minus elongatâ et magis inæquilaterali; margine ventrali rarò retuso; dente laterali antico plerumque magis remoto.*

Long. 0.50; lat. 1.50.

Hab. *Var. a.* Matzellan, Gulf of California (Cuming).

Var. b. Acapulco (Cuming).

Rather a common shell, and closely allied to *pulchella*.

DONAX ASPER. *Don. testâ trigonâ, ventricosâ, solidâ, subinæquilaterali, albâ aut carnâ, anticè nitidiusculâ et radiatim striatâ, posticè impolitâ et radiatim costellatâ; striis exilibus et simplicibus; costellis parvis, decussatis, aut subsquamosis aut subgranosis, supra costam umbonalem angulatam confertis; margine ventrali crenato, arcuato; dorsali antico, valdè declivi, subrecto; postico retuso, inermi, subitòque declivi; extremitate lateris antici longioris, rotundatâ, posticâ angulatâ; natibus valdè prominentibus et maximè*

incurvatis; pube pland; dentibus lateralibus approximatis. Long. 1.30; lat. 1.60 pol.

Hab. Tumbez, Peru (Cuming).

Closely resembling *dentiferus*, but not provided with the characteristic tooth, much stronger and more triangular, and with its ventral edge more arcuated, and its front extremity more attenuated. The front dorsal edge appears retuse (which it is not in reality), from the lateral projection of the swollen beaks. The lower margin is stained with violet anteriorly.

DONAX NAVICULA. *Don. testâ elongato-trigonâ, crassâ, subventricosâ, nitidâ, subinæquilateralî, sublævigatâ (striis radiantibus tantum in medio perspicuis), albâ, epidermide flavâ indutâ, propè marginem dorsalem utrinque brunneo-purpurascente strigatâ; margine ventrali in medio ventricoso, intus crenatâ; dorsali anticè subrecto et subdeclivi, posticè incurvato et declivi; areâ posticè lævi, subconcavâ; latere antico longiore, angustato, ad extremitatem rotundato; postico cuneiformi, ad extremitatem obtuso; ligamento minimo; costâ umbonali obtusâ; superficie internâ albidâ, utrinque supernè purpureâ; dentibus lateralibus maximè approximatis.* Long. 0.40; lat. 0.90 poll.

Hab. Gulf of Nicoya, Central America (Cuming).

Allied to *Californiensis*, but more triangular.

DONAX GRACILIS. *Don. testâ elongatâ, angustâ, nitidâ, valde inæquilateralî, compressâ, sublævigatâ, albidâ aut pallidè violaceo-rufescente, epidermide lutescente indutâ; margine ventrali convexo aut subarcuato, haud flexuoso, intus crenulato; dorsali magis minusve livido, utrinque subrecto, anticè vix paululùm declivi, posticè valdè declivi; latere antico producto, attenuato, ad extremitatem rotundato, postico acuminato-cuneiformi; ligamento minimo; areâ posticè lævi, obtusissimâ; costâ umbonali obtusâ; superficie internâ purpurascente; dentibus lateralibus perspicuis, approximatis.*

Var. *b.* *Testâ albidâ, radiis paucis livido-rufescentibus ornata.*

Var. *c.* *Testâ rufescente aut lividâ.*

Long. 0.40; lat. 1 poll.

Hab. Bay of Guayaquil. Var. *b.* Chiriqui. Var. *c.* Bay of Caracas (Cuming).

Allied to *Owenii*, but with the margin crenulated.

DONAX SORDIDUS. *Don. testâ abbreviato-cuneiformi, convexâ, nitidiusculâ, solidâ, valdè inæquilateralî, striis exilibus simplicibus confertim radiatâ, sordidè albidâ; lineis elevatis obliquis subconcentricis, partem superiorem et lævigatam testæ posticè asperantibus; margine ventrali crenulato, medio arcuato; dorsali antico, declivi et subrecto; postico subrecto et valdè declivi; latere antico attenuato; postico brevi et infernè (in adultis etiam supernè) obtusè angulato; pube fortiter et confertim rugis subdecussatis concentricè exarata; costâ umbonali subangulatâ; superficie internâ albidâ, purpureo infectâ; dentibus lateralibus approximatis, antico permagno.* Long. 0.70; lat. 1 poll.

Hab. Cape of Good Hope. Mus. Brit., Cuming.

Intermediate between *striata* and *semisulcata*. The raised oblique lines which roughen the posterior side near the beaks where the striae have become entirely obsolete, are a striking character in this rare species.

Mr. Fraser exhibited to the Meeting and characterized three new species of Birds from the Society's collection, viz :—

PALAEORNIS MODESTUS. *Pal. ptilose viridi; genis pallidè cervinis; vitta a naribus ad oculos viridescenti-nigrâ; mandibulis nigris.*

Hab. — ?

This bird is nearly allied to the *P. Pondicerianus*, but differs in the colour of the cheeks, breast and mandibles; it differs also from *P. Malaccensis* in the paler colour of the cheeks, and that colour not extending further back than the ears, in the colour of the beak, &c.; it may also be readily distinguished from Mr. Hodgson's Nepaul species by the colouring of the cheeks.

LORIUS SUPERBUS. *Lor. capite et tectricibus majoribus inferioribus alarum nigris; genis, lateribus, pectore et uropygio rubris; nuchâ, ventre, femore, et tectricibus caudæ inferioribus cæruleis; scapulis, tectricibus alarum inferioribus minoribus, et dimidio terminali caudæ cæruleis; alis externis viridibus.*

Hab. — ?

This bird is about the size and is closely allied to the *Lorius Philippensis*, Briss., but differs in having the shoulders and smaller under wing-coverts blue, the larger ones black (in this respect it somewhat resembles the *Lorius domicellus*, Auct.); in the absence of the red band immediately below the black crown; and in having an entire red band from shoulder to shoulder, whereas in *L. Philippensis* it is only partial.

LARUS BRIDGESII. *Lar. ptilose griseâ; capite et mento pallidè cinereis; primariis et secundariis nigris, apicibus secundariorum albis, fasciam albam trans alas formantibus; quibusdam primariis apicibus albidis; vitta nigrâ lat. 1 poll. prope apices remigum; rostro pedibusque nigris.*

| | |
|----------------------|-------|
| | poll. |
| Tot. long. | 18 |
| Alæ | 11 |
| Cauda | 5½ |
| Rictus | 2½ |
| Tarsi | 2 |
| Digitus medius | 1¾ |

From Valparaiso, Chile. Collected by Mr. Thomas Bridges, Corr. Memb.

This apparently new species of Gull is closely allied to the *Larus fuliginosus*, Gould, but differs in the beak being much more slender, in the general colour being lighter, in the head and chin being nearly white, in having a white band across the wings, and the black band across the tail being more decided.

March 11, 1845.

Rev. John Barlow, M.A., F.R.S., Sec. R.I., in the Chair.

Four specimens of Fish from the hot springs of Thermopylæ were presented to the Society by James Wyllie, Esq. Mr. Yarrell stated them to be Cyprinoid Fishes of the genus *Leuciscus*, but from their highly desiccated state and very small size it was impossible to refer them to a definite species.

A paper by Sylvanus Hanley, Esq., was read, containing descriptions of two new species of *Donax* :—

DONAX ASSIMILIS. *Don. testâ cuneiformi, magis minusve crassâ, anticè compressâ, posticè ventricosâ, valdè inæquilaterali, lividâ, albo-violascente, aurantiâ aut flavidâ, zonis saturatioribus aut violaceis plerumque pictâ, radiatim striatâ; striis haud confertis, anticè simplicibus, posticè elevatis et decussatis; margine ventrali crenulato, haud arcuato, anticè sursum acclinato; dorsali, anticè subdeclivi subrecto aut convexiusculo, posticè subrecto et valdè declivi; latere antico producto, ad extremitatem rotundato et attenuato; postico perbrevis et infernè angulato; costâ umbonali subangulatâ; pube decussatâ, et costellâ ad extremitatem dentiferâ, sæpè radiatâ; ligamento prominente et satis magno; superficie internâ in adultis, prope marginem violaceâ; dente laterali antico haud remoto, postico subapproximato.* Long. 1; lat. 1.55 poll.

Hab. Panama. Mus. Cuming, Hanley, &c.

Very variable in colouring, often with a short purple perpendicular ray upon the umbones; sometimes with three or four pale rays on a darker ground, but usually uniform and only marked when aged, with the rib-like stria projecting at the margin like a tooth. This latter character and the identity of its sculpture render the species liable to be confused with *dentifera*, but the greater tenuity and less elongated shape of that shell is preserved even in the younger specimens.

DONAX LUBRICUS. *Don. testâ cuneiformi, compressâ, solidiusculâ, valdè inæquilaterali, nitidissimâ, lividâ aut albo-violascente, anticè lævigatâ, posticè striis radiantibus ornatâ; margine ventrali exiliter crenulato, convexo aut convexiusculo; dorsali, utrinque subrecto, anticè declivi, posticè valdè declivi; latere antico attenuato, ad extremitatem rotundato; postico perbrevis et infernè obtusè angulato; vulvâ rugis confertis concentricis, striisque exilibus radiantibus, eleganter decussatâ; costâ umbonali subobtusâ; natibus acutis; dentibus lateralibus obsoletis.* Long. 0.6; lat. 0.8 poll.

Hab. —? Mus. Cuming.

Peculiar for uniting a smooth surface to a crenulated margin.

No. CXLV.—PROCEEDINGS OF THE ZOOLOGICAL SOCIETY.

March 25, 1845.

William Horton Lloyd, Esq., in the Chair.

Two specimens of *Salamandra*; a Tree Frog, *Rana arborea*; and a *Scolopendra cingulata*, were presented to the Society by Joseph James Forrester, Esq., of Oporto, Corr. Memb.

Mr. Gould exhibited to the Meeting a new species of *Trogon*, from South America, and seven new Birds from Australia, which he characterized as follows:—

TROGON PUELLA. *Trog. loris, plumis auricularibus et gula fusco-nigris; capite, corpore superiore, et pectore aureo-viridibus; alis nigris; tectricibus alarum maculis minimis albis ornatis; corpore inferiore vivide coccineo, separato a viridi pectore fasciâ semilunari alba; tribus remigibus exterioribus nigris vittis albis angustis frequentibus ornatis; femoribus nigris.*

Lores, ear-coverts and throat dull black; head, all the upper surface and chest golden green; wings black; the coverts very minutely freckled with white, and the primaries with a very narrow line of white along the basal portion of their outer webs; all the under surface scarlet, separated from the green of the chest by a semilunar mark of white; two middle tail-feathers golden green; the two next on each side golden green on their outer webs and black on their inner, the whole six tipped with black; the three outer feathers on each side black, crossed by numerous narrow bars of, and narrowly tipped with, white; thighs black; bill orange; irides red; feet dark grey.

Total length, 10 inches; bill, 1; wing, $5\frac{1}{2}$; tail, $5\frac{3}{4}$; tarsi, $\frac{1}{2}$.

Hab. Escuintla, South America.

Remark.—Nearly allied to *Trogon collaris*, Vieill.

CUCULUS OPTATUS. *Cuc. corpore superiore cæruleo-griseo; pogniis internis primariarum fasciis latis albis ornatis; remigibus saturatè violaceo-brunneis; apicibus subalbidis, serie macularum oblongarum albarum alternatim ordinatâ; corpore subtùs albo, fasciis nigris.*

The whole of the upper surface slaty grey; inner webs of the primaries broadly barred with white; tail-feathers dark violet-brown, with a row of oblong spots of white placed alternately on either side of the stem, and slightly tipped with white; the lateral feathers have also a row of white spots on the margin of their inner webs; chin and breast light grey; all the under surface buffy white, crossed by bands of black; irides, bill and feet orange.

Total length, 13 inches; bill, $1\frac{1}{4}$; wing, $7\frac{3}{4}$; tail, $6\frac{1}{2}$; tarsi, $\frac{3}{4}$.

Hab. Port Essington, Australia.

Remark.—Closely allied to the Common Cuckoo (*Cuculus canorus*) of Europe.

CUCULUS INSUPERATUS. *Cuc. capite, gula, et corpore superiore cæruleo-griseis; alis, dorsoque nitide viridescentibus; cauda brunneo-viridi singula pluma apice albo, et marginibus pogoniorum interiorum ordine macularum albarum triangularium ornatis; parte subscapulari tectricibus caudæ inferioribus, crissoque rufis; corpore subtus rufo-tincto-griseo.*

Head, throat and all the upper surface dark slate-grey; back and wings glossed with green; tail glossy brownish green, each feather tipped with white, and with a row of triangular-shaped white marks on the margins of the inner webs; primaries and secondaries with a patch of white on their inner webs near the base; edge of the shoulder white; under surface of the shoulder, vent and under tail-coverts rufous; the remainder of the under surface grey, washed with rufous; bill black; feet olive.

Total length, $9\frac{1}{4}$ inches; bill, 1; wing, $6\frac{1}{2}$; tail, 5; tarsi, $\frac{5}{8}$.

Hab. New South Wales.

Remark.—Nearly allied to *Cuculus cineraceus* of Vigors and Horsfield.

CUCULUS DUMETORUM. *Cuc. capite, uropygio, colloque saturate cæruleo-griseis; alis, cauda dorsoque metallicè brunneis; apicibus remigum leviter albis; pogoniis interioribus serie macularum triangularium parvarum ornatis; pectore griseo, rufo-tincto.*

Head, neck and rump dark slate-grey; back, wings and tail bronzy brown; tail-feathers slightly tipped with white and with a row of small triangular-shaped spots on the margins of their inner webs; breast grey, washed with rufous; under surface of the shoulder, flanks, vent and under tail-coverts deep rufous; irides brown.

Total length, $8\frac{1}{2}$ inches; bill, $\frac{7}{8}$; wing, 5; tail, $4\frac{1}{2}$; tarsi, $\frac{1}{2}$.

Hab. Port Essington, Australia.

Remark.—Nearly allied to *Cuculus insuperatus*.

SPHENÆACUS GRAMINEUS. *Sphen. vitta supra oculos alba; corpore supernè brunneo; medid plumarum saturatè brunneâ; subtus griseo; lateribus crissoque cervinis; mediâ parte singulæ plumæ pectoris lined minimâ saturatè brunneâ ornatâ.*

Stripe over the eye white; all the upper surface brown, the centres of the feathers being dark brown; secondaries brownish black, margined with buff; tail pale reddish brown, with dark brown shafts; under surface grey, passing into buff on the flanks and vent; each feather of the breast with a very minute line of dark brown down the centre; bill and tarsi fleshy brown.

Total length, $5\frac{1}{4}$ inches; bill, $\frac{5}{8}$; wing, $2\frac{1}{4}$; tail, $2\frac{5}{8}$; tarsi, $\frac{3}{4}$.

Hab. Van Diemen's Land and the southern coast of Australia generally.

PACHYCEPHALA GLAUCURA. *Pach. capite, loris, spatio infra oculos, et latâ maculâ semilunari trans pectus saturatè nigris; gula, intra maculam nigram, albâ; nuchâ posteriore, lined angustâ apud latera*

pectoris pone semilunam nigram, et corpore inferiore flavis; caudā grised; tectricibus caudæ inferioribus albis vel subflavis.

Head, lores, space beneath the eye and a broad crescent-shaped mark from the latter across the breast deep black; throat within the black, white; back of the neck, a narrow line down each side of the chest, behind the black crescent, and the under surface yellow; back and wing-coverts yellowish olive; wings dark slate-colour, margined with grey; tail entirely grey; under tail-coverts white, or very slightly washed with yellow; irides reddish brown; bill black; feet dark brown.

Total length, 7 inches; bill, $\frac{5}{8}$; wing, 4; tail, $3\frac{5}{8}$; tarsi, 1.

Hab. Van Diemen's Land.

Nearly allied to *Pachycephala gutturalis*, but distinguished by a shorter bill and by the colouring of the tail, which is entirely grey.

CYSTICOLA CAMPESTRIS. *Cyst. capite ferrugineo-rubro, dorso tectricibusque alarum brunneo-griseis; singulis plumis corporis superioris fasciā longitudinali saturatē brunneā ornatis; caudā rufobrunned, plumis duabus mediis latā maculā nigrā juxta apices; corpore subtus pallidē cervino.*

Head rusty red; back and wing-coverts brownish grey, all the feathers of the upper surface with a broad stripe of dark brown down the centre; wings blackish brown, the primaries margined externally with rusty red, and the secondaries edged all round with brownish grey; tail reddish brown, all but the two centre feathers with a large spot of black near the tip; all the under surface pale buff.

Total length, $5\frac{3}{4}$ inches; bill, $\frac{5}{8}$; wing, $2\frac{3}{4}$; tail, $2\frac{3}{4}$; tarsi, $\frac{3}{4}$.

Hab. Australia.

Remark.—For the loan of this new species I am indebted to the kindness of H. E. Strickland, Esq.

CALAMOHERPE LONGIROSTRIS. *Cal. vittā pallidā, supra oculos cervinā; corpore supernè rufo, subtus saturatē cervino; mento al-bido.*

Faint line over the eye fawn-colour; all the upper surface reddish brown, becoming more rufous on the upper tail-coverts; primaries and tail dark brown, fringed with rufous; chin whitish; all the under surface deep fawn-colour; irides yellowish brown.

Total length, $6\frac{1}{2}$ inches; bill, $\frac{1\frac{5}{8}}{16}$; wing, 3; tail, 3; tarsi, 1.

Hab. Western Australia.

April 8, 1845.

William Horton Lloyd, Esq., in the Chair.

A number of Australian Birds' skins, presented to the Society by John Osborne Balfour, Esq., were exhibited. Two of the specimens were from Moreton Bay, the others principally from Bathurst.

Descriptions of three new species of Bivalve Shells, of the genera *Cytherea* and *Venus*, by Sylvanus Hanley, Esq. :—

CYTHEREA OVUM. *Cy. testâ ovatâ, solidissimâ, æquivalvi, ventricosâ, nitidâ, lævigatâ, albidâ, epidermide fulvâ indutâ; margine ventrali integro, arcuato; dorsali, utrinque convexiusculo et subdeclivi; latere antico rotundato; postico obtusè subangulato, superne glauco-cineraceo; natibus rectè incurvatis, sæpè erosis; lunulâ obsoletâ; superficie internâ albidâ, posticè livido-purpurascente infectâ; dente postico leviter crenulato; sinu palliari vix ullo.* Long. 0·90; lat. 1·20 poll.

Index Test., sup. t. 15. f. 21. Mus. Cuming, Hanley.

Hab. —?

Remarkable for its peculiar solidity and the equality of its sides. It bears a slight resemblance to the true *casta* of Chemnitz, but is a more ovate shell.

VENUS BRUGUIERI. *Ven. testâ oblongâ, solidiusculâ, subnitidâ, convexâ, valdè inæquilaterali, aut pallidè brunneâ, radiis paucis albis ornatâ, aut fusco-cineraceâ, radiis saturatioribus angustis remotis interruptim pictâ; radiatim sulcatâ; sulcis in medio subimbricatis, utrinque subdecussatis, et posticè in costellas (plerumque subgranosas) mutatis; margine ventrali subrecto aut paulò convexiusculo; dorsali, posticè vix declivi, subrecto aut convexiusculo, anticè subdeclivi et convexiusculo; extremitate anticâ rotundatâ; latere postico producto, obtusè et obliquè biangulato; margine postico magis minusve convexo; natibus curvatis et radio brevi livido posticè ornatis; lunulâ subobsoletâ; ligamento subinfosso; margine cardinali intus purpureo; dentibus angustis, recurvis, parallelis.* Long. 0·85; lat. 1·40 poll.

Index Test., sup. t. 15. f. 59. Mus. Cuming, Hanley.

Hab. —?

Belonging to the section *Pullastra*, and allied to *decussata*, but easily distinguishable by its shape and peculiar sculpture. It has however been figured for that species in the 'Encyclopédie Méthodique,' pl. 283. f. 4.

VENUS MAGNIFICA. *Ven. testâ suborbiculari, subcordatâ, tumidâ aut ventricosâ, solidissimâ, valdè inæquilaterali; margines versùs*
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purpureo tinctâ, umbones versùs albidâ brunneo sparsim maculatâ; lineis concentricis, sulcisque radiantibus decussatâ; lineis, anticè undosis et paulò elevatis, posticè obsoletis, mediâ planulatis et sursum spectantibus; sulcis frequentibus, profundis; margine ventrali arcuato, intusque crenato; dorsali, anticè convexo et declivi, posticè convexo et vix declivi; latere posico majore, obtuso; natibus maximè curvatis; pube, lunulâque prominente cordiformi, livido-purpureis; ligamento infosso; superficie internâ albidâ, immaculatâ; dentibus ut in V. puerperâ. Long. 5; lat. 5 poll.

Hab. Ticao, on the sands; Cuming. Mus. Cuming.

This splendid shell is most closely allied to *puerpera*, but the cessation of the concentric ridges on the posterior side, the tinge of purple which environs the whole margin, and the absence of any coloured rays, enable us at once to separate them. The concentric lines gradually become less elevated and more distant towards the lower margin, and finally (in the adult) entirely disappear. The radiating sulci in aged specimens are so broad at their extremity as to give the interstitial spaces the appearance of costellæ.

Abstract of a paper on Nepalese Birds, by Bryan H. Hodgson, Esq., Corr. Memb., late British resident at Nepal:—

BRACHYPODINÆ.

Genus *Stachyris*, mihi (olim *Cilathora*). Types, *S. nigriceps*, *pyrops* et *chrysæus*, all new.

Bill as long as head, strong and straight, elongate-conic, much compressed; towards base much higher than broad, with its ridge elevated and keeled between the large nareal fosses; rounded forwards, and the tips either straight, entire and depressed, or the upper one suddenly inclined, with remote notch; gape smooth; frontal plumes rigid, and concealing the base of the bill; nares placed at fore end of the fosse, and covered by a salient arched incumbent scale, which closes the aperture forwards; tongue narrow, simple, with bifid jagged tip; wings short, bowed, perfectly rounded; tail moderate, gradated, rather cuneate than fan-shape, and either frayed or subrigid; feet suited to creeping and clinging; tarse elevate and strong, longer than central toe and nail, and nearly or quite smooth; toes short, depressed, unequal, basally connected; hind large, and equal to outer fore toe; nails repent and Parian. Exclusively monticolous and shy of man; not gregarious; feeds on tiny hard insects and the larvæ and pupæ of tree-haunting species—rarely on seeds; exclusively arboreal; builds large globular nests, which are fixed upon and between the crossing twigs of low thick bushes, and lays four or five eggs, of a pale fawn-colour, either unmarked or spotted with brown.

1st species, *S. nigriceps*, mihi.— $5\frac{1}{3}$ inches long; bill to gape, $\frac{11}{16}$; tail, $2\frac{1}{16}$; tarse to sole, $\frac{15}{16}$; central toe and nail, $\frac{11}{16}$; hind toe and nail, $\frac{9}{16}$; closed wing, $2\frac{1}{8}$.

Colour.—Above medial red-brown, deeper and purer on wings and tail; below sordid rusty, brightest forwards; top and sides of head black, picked out with hoary; chin hoary, confined by a black band

running from the cap towards the breast; legs fleshy; bill horn-yellow, darkened on ridge; iris pale orange.

2nd species, *S. pyrops*, mihi.—Olive-brown above, sordid rusty below and on the sides of head and neck; beneath and before the eye and under the chin a black spot; bill sordid sanguine, dusky on the ridge; legs horn-colour; eye sanguine. $4\frac{1}{2}$ inches long; bill, $\frac{1}{2}$; tail, 2; tarse, $\frac{3}{4}$; central toe and nail, $\frac{9}{16}$; hind, $\frac{7}{16}$; wing, 2.

3rd species, *S. chrysæus*, mihi.—Above vernal green, deeply tinged with golden; below bright golden; cap with dusky stripes; bill dusky; legs yellow. Length, $4\frac{5}{8}$ inches; bill, $\frac{9}{16}$; tail, 2; wing, $2\frac{1}{8}$; tarse, $\frac{3}{4}$; central toe and nail, $\frac{1}{2}$; hind, $\frac{7}{16}$.

Remark.—These singular birds belong I think to Swainson's group of the *Brachypodinae*, among the creeping genera of that group; but they show some tendency to pass to the *Leiotrichanians*, by means of *Pteruthius* and our *Heterornis*; *Heterornis* at all events must take place next *Pteruthius*; but I think the true position of *Stachyris* is among the *Brachypods*, near to *Iöra* and *Icteria*, with the forms that we shall next give, and leading to the *Crateropodans*.

Genus *Mixornis*, mihi.

General structure of *Iöra*, but the bill quite different and Meruline; commissure and culmen subarched throughout; tarse lower and not exceeding the large thumb with its nail; tail fully rounded. Type, *M. ruficeps*, mihi.—*Timalia gularis* of Horsfield?

M. ruficeps.—Body vernal green, passing to yellow on the throat and breast, where also there are dark lines down the shafts of the plumes; cap, wing and tail brunescent; bill bluish horn; legs fleshy grey; iris hazel. Length $5\frac{3}{8}$ inches; bill, $\frac{5}{8}$; tail, $2\frac{1}{8}$; tarse, $\frac{13}{16}$; central toe and nail, $\frac{9}{16}$; hind, $\frac{8}{16}$; closed wing, $2\frac{3}{8}$. Sexes alike.

Genus *Erpornis*.

General structure of the last, but the bill very straight, compressed, with the culmen well-raised and keeled between the nares, as in *Stachyris* and in *Iöra*, but less thick and rounded and the notch more remote than in *Iöra*; wings longer and more acuminate, with the first three quills less equally graduated; legs smaller; tail even.

Type, *Erpornis xanthochlora*, mihi.—Above vernal yellow, below white; legs and bill fleshy grey; iris brown. Five inches long; bill, $\frac{5}{8}$; tail, $2\frac{1}{8}$; closed wing, $2\frac{3}{4}$; tarse, $\frac{11}{16}$; central toe and nail, $\frac{9}{16}$; hind, $\frac{8}{16}$. Sexes alike.

Remarks.—The above two forms are much related to each other, as well as to *Stachyris* and the other *Brachypodan* clinging-birds; but *Mixornis* inclines towards *Timalia* among the *Crateropodans*, while *Erpornis* is nearer to *Stachyris* and *Zosterops*, which last I consider to be a *Brachypod*. Both inhabit the lower and central hills, and feed on tiny tree-insects and their larvæ and pupæ. Their tongue is simple.

Genus *Ixulus*.

General structure of *Polyodon*, but the bill, tongue and nares sim-

ple, and Brachypodan, not Meliphagian ; bill short and singly notched at the tip.

Type, *Polyodon flavicollis* or *Yuhina flavicollis*, as printed.

Remark.—*Polyodon* is a strictly Meliphagian form. *Ixulus* is one of the genera serving to connect the true Honeysuckers with the repent Brachypods, such as *Zosterops*, *Chloropsis*, &c., and which are so like the former.

CRATEROPODINÆ.

Genus *Pyctoris*, mihi.

Bill short, strong, perfectly entire, arched throughout the culminal and tomial lines ; nareal fosse and scale obsolete ; rictus with very strong short bristles ; orbits nude ; wings short and feeble, the first two quills much, the next two little gradated ; third pair equal and longest ; tail long, broad and gradated throughout ; legs and feet typically Crateropodan, with a high strong tarse ; toes medial, unequal, central not elongated, laterals unequal, hind large ; nails large, but not much curved nor acute ; hind one largest.

Type, *Timalia hypoleucos*, Auct.

Hab. The plains only, represented in the hills by *Deceira*.

A. ruffrons, mihi.—Above sordid ashen olive, passing to clear rusty brown on the alars, caudals, brows and chin, and the former (typically) marked with frequent regular cross-bars of black ; tail longer and more gradated than in *Nipalensis* ; head similarly crested ; bill and feet embrowned fleshy or horny grey ; iris brown. Length, $8\frac{3}{4}$ inches ; bill, $\frac{7}{8}$; tail, $4\frac{3}{4}$; wing, $3\frac{1}{2}$; tarse, $1\frac{1}{4}$; central toe and nail, $\frac{13}{16}$; hind, $\frac{11}{16}$.

Remarks.—These birds form one of those singular links which unite the Crateropodan and Brachypodan thrushes with the *Meliphagidæ*, of which last our *Alcopus* is a true member, having the brushed tongue in perfect development. *Zosterops*, *Chloropsis*, *Hypsipetes*, &c. of the Brachypodan group, likewise have the brushed tongue in more or less development, but not so perfectly as in *Alcopus*. In *Ixops* there is little trace of it. *Ixops* leads from a Meliphagian type (*Alcopus*) to the Crateropods, and *Ixulus* from another (*Polyodon*) to the Brachypods.

MYOTHERINÆ.

Genus *Pnoepyga* (olim *Tesia*), mihi.

Bill short, straight, Cinclosylvian, depressed as far as the nares, compressed beyond, with inflexed tomia and tip faintly inclined and notched ; nares large, fossed, unplumed, furnished with a salient membranous scale, which lunates the aperture ; rictus and brows smooth ; wings very short, bowed, and perfectly rounded ; tail rudimentary, consisting of only six plumes, which are hid by the puffy rump-feathers ; legs and feet ambulatory ; tarse elevate, smooth ; lateral toes equal. Types, the following :—

1st species, *albiventer* (*M. squamata*, Gould, *postea*), mihi.—Above and sides olive-brown, more or less dotted with rufous ; below

white, largely picked out with central dusky drops; feet dusky grey; bill dusky horn. Length, $4\frac{1}{3}$ inches; bill, $\frac{9}{16}$; tail, $\frac{5}{8}$; closed wing, $2\frac{3}{8}$; tarse, 1; central toe and nail, $\frac{13}{16}$; hind, $\frac{1}{8}$.

2nd species, *rufiventer*.—Very like last, but the ground-colour below invariably rufescent, not white, and size rather less.

3rd species, *unicolor*, mihi.—Throughout of a dull brunescent olive, like *Cinclus*. Length, $3\frac{3}{4}$ inches; bill, $\frac{9}{16}$; tail, $\frac{11}{16}$; closed wing, $2\frac{5}{16}$; tarse, $\frac{15}{16}$; central toe and nail, $\frac{3}{4}$; hind, $\frac{9}{16}$.

4th species, *pusillus*, mihi.—Above saturate olive; below orange tawny, margined finely with black above and below; the colours confused towards the vent; legs sordid fleshy; bill dusky horn; iris brown. Length, $3\frac{1}{8}$ inches; bill, $\frac{1}{2}$; tail, $\frac{9}{16}$; closed wing, $1\frac{3}{4}$; tarse, $\frac{13}{16}$; central toe and nail, $\frac{11}{16}$; hind, $\frac{9}{16}$.

Genus *Oligura*, mihi.

General structure of *Pnoepyga*, but the tail more developed and furnished with twelve plumes; the bill more depressed; rictus less entirely smooth; nareal tect less developed and nares consequently ovoid; lateral toes unequal, hind large, and nails more acute. Types, the following:—

1st species, *flaviventer*, mihi.—Above deep grass-green, below rich yellow; cap bright chestnut; legs fleshy grey; bill dusky above, fleshy below; iris brown. Length, $3\frac{3}{4}$ inches; bill, $\frac{9}{16}$; tail, 1; wing, $1\frac{7}{8}$; tarse, $\frac{15}{16}$; central toe and nail, $\frac{10}{16}$; hind, plus $\frac{1}{2}$.

2nd species, *cyaniventer*, mihi.—Above grass-green, below slaty blue; legs and feet smoky grey; bill dusky above, horn below. Length, $3\frac{7}{8}$ inches; bill, $\frac{10}{16}$; tail, $\frac{14}{16}$; closed wing, less 2; tarse, 1; central toe and nail, $\frac{11}{16}$; hind, $\frac{9}{16}$.

Remarks.—The above genera were first discovered and described by myself, but I failed then to note the distinction between the two. I have now thrown all the prior and new species together. These singular birds are peculiar to the mountains, and dwell in moist woods where there is plenty of underwood; they are solitary, silent, live and breed on the ground, and feed on seeds, gravel and insects; their stomach is thick—almost a gizzard. They should stand with *Aipunemia* and *Brachypterix*, between *Pitta* and *Cinclus*. Our *Horornis* and *Monticola* are analogous forms among the *Sylvianæ*, and *Todus* among the *Muscicaps*. Gould has figured our first species of *Tesia*, which he calls *Micrura squamata*.

SYLVIADÆ.

SAXICOLINÆ.

Dimorpha, mihi (see 'Indian Review,' *Siphia*).

Bill short, cylindrico-depressed; Muscicapian, but less wide and less armed at the tip; base loaded with a forward soft zone, putting forth hairs which partly conceal the nares; rictus less wide and less armed than in *Muscicapa*, but approaching thereto; wings more or less elongated and acuminate, with 4th, 5th, or 6th quill longest; the first three or four more regularly gradated than in *Muscicapa*;

alar and caudal plumes wedged and mucronate, and the tail itself either slightly gradated from centre and sides, or cuneate; legs and feet more suited to walking than in *Muscicaps*; tarse smooth and exceeding the mid toe and nail; toes medial, compressed, unequal; hind sometimes large, but not broad; nails large and slender, or small and more bent.

The subgenera seem to be three, or *Dimorpha*, *Digenea*, and *Synornis*.

Dimorpha

proper, with long wings, having the fourth quill longest; tail broad and gradate from centre and sides; feet with the lateral fore-toes nearly equal and the hind-toe small, and the nails falcate and short.

Types, *D. strophhiata*, *monileger* and *rubrocyanea*. *D. strophhiata* printed apud Indian Review, quod vide.

D. ? monileger, mihi.—Above olive-brown, sordid, save on the wings and tail; below diluted and sordid; frontal zone rusty; chin and throat white, enclosed by a black band; bill black; legs fleshy; iris brown. Length, $5\frac{1}{8}$ inches; bill, $\frac{5}{8}$; tail, 2; closed wing caret; tarse, $\frac{1\frac{5}{8}}{16}$; central toe and nail, $\frac{11}{16}$; hind, $\frac{10}{16}$. Sexes alike nearly.

D. ? rubrocyanea, mihi.—Above indigo-blue, below deep rusty; frontal zone, basal edges of tail and vent white; bill black; legs fleshy. Length, $4\frac{1}{2}$ inches; bill, $\frac{9}{16}$; tail, $1\frac{7}{8}$; closed wing, $2\frac{3}{8}$; tarse, $\frac{3}{4}$; central toe and nail, plus $\frac{9}{16}$; hind, $\frac{8}{16}$. Deviates from the type in form of wing, which has first three quills much gradated and fifth longest, and it has the legs, feet and nails of the next subgenus,

Digenea, mihi,

which differs from *Dimorpha* proper by having the wings shorter, with the fifth or sixth quill longest, the legs and feet longer and slenderer, and the nails less bent, but larger; the thumb larger and the nail cuneate. The types are *tricolor* and *leucomelanura*.

D. tricolor.—Above olive-green, passing into ruddy olive-brown as you recede from the head; below sordidly luteous or fulvous; bill blackish; legs fleshy grey. Length, $4\frac{5}{8}$ inches; bill, $\frac{1}{2}$; tail, 2; closed wing, $2\frac{5}{16}$; tarse, less $\frac{3}{4}$; central toe and nail, $\frac{5}{8}$; hind, $\frac{1}{2}$.

D. leucomelanura, mihi.—Above saturate slaty, passing to black on wings and tail; tail laterally towards the base white, below albescent slaty; throat pure white; bill and legs black. Length 5 inches; bill, $\frac{1}{2}$; tail, $2\frac{3}{16}$; wing, $2\frac{3}{8}$; tarse, $\frac{1\frac{3}{8}}{16}$; central toe and nail, $\frac{10}{16}$; hind, $\frac{8}{16}$.

Passing next to the subgenus

Synornis,

we have a medial Muscicapian wing, whereof the first quill is spurious, the second long, and 3-4 longest. The bill is more exposed at its base, the rictal and nareal hairs are shorter, and the legs and feet are more ambulant, with smaller thumb and nails, neither slenderly elongate nor shortly falcate. The type of this form is our *Joulaimus*, but it is the species whereof the male seems to be Sykes's *Saxicola rubeculoides*, and the female Gmelin's *Muscicapa leucura*.

S. Joulaimus, mihi.—Above earthy brown, below diluted to luteous; throat and breast bright rusty; sides of head and neck dull slaty; tail black, with white lateral base. Female below void of the red colour, being throughout sordid white. Length, $5\frac{3}{8}$ inches; bill, $\frac{9}{16}$; tail, $2\frac{1}{4}$; wing, $2\frac{3}{4}$; tarse, $\frac{3}{4}$; central toe and nail, $\frac{9}{16}$; hind, $7\frac{1}{16}$. Weight, $\frac{1}{3}$ oz.

Hab. Tarai. Rarely or never the hills, to which the others are as entirely confined.

PHILOMELINÆ.

Genus *Muscisylvia*, mihi.

General structure as in *Grillivora*, but feebler; gape wider and bristled; tip of the bill more suddenly bent; nares elongated, with nude membranous tect and lunato-elliptic aperture, set over by tiny hairs; wings and tail ample, with broad webs and obtuse mucronated terminations; wings round, acuminate; fifth quill longest; tail medial, even, broad; legs and feet suited to walking and perching; tarse equal to mid toe and nail; toes long and slender; nails acute; hind much the largest, and equal to the digit; exclusively Monticolous; stomach muscular and strong; feeds on hard and soft insects, pulpy berries and small seeds. A shy forester; not gregarious.

Type, *M. leucura*, mihi.—Throughout deep indigo-blue, passing to black on alars and caudals; forehead and shoulders rich cobalt blue; tail basally and laterally whitened; a white spot on the side of the neck of the male; bill and legs black; iris dark. Length, $7\frac{1}{2}$ inches; bill, $\frac{3}{4}$; tail, $3\frac{1}{4}$; wing, $3\frac{3}{4}$; tarse, $1\frac{3}{16}$; central toe and nail, $\frac{15}{16}$; hind, $\frac{3}{4}$. Weight 1 oz.

Genus *Nemura*, mihi.

General structure of *Phenicura*, but slighter, with slenderer legs and feet, and bill more armed at the point, and lateral toes unequal; wings and tail mucronated, as in the last, but the webs less broad and the tips narrowed wedgewise; nails long, slender and delicate, like the digits and legs. Manners of *Phenicura*, but a forester and shy. Feeds on insects, soft and hard, and on pulpy berries. Found in central and northern regions of hills. Types, *N. rufilatus* et *flavolivacea* et *cyanura*.

N. rufilatus, mihi.—Above and the cheeks indigo-blue; brows, shoulders and rump soft cærulean; below white, save the flanks, which are bright rusty; bill and legs black; iris brown. Length, $5\frac{3}{8}$ inches; bill, $\frac{9}{16}$; tail, $2\frac{3}{8}$; wing, $3\frac{1}{4}$; tarse, $1\frac{1}{16}$; central toe and nail, $\frac{3}{4}$; hind, $\frac{9}{16}$.

N. flavolivacea, mihi.—Possibly female of the last. Above olive-green, with a yellowish tinge; below sordidly fulvescent; bill and legs fleshy grey. Length, $5\frac{5}{8}$ inches; bill, $\frac{9}{16}$; tail, $2\frac{3}{8}$; wing, 3; tarse, $1\frac{1}{8}$; central toe and nail, $1\frac{3}{16}$; hind, $1\frac{0}{16}$.

N. cyanura, mihi.—Head, neck, breast and wings olive-brown, more diluted below; rump and tail verditer-blue; flanks bright rusty; chin, belly and vent white; legs and feet black. Sexes alike. Length,

5 $\frac{1}{8}$ inches; bill, $\frac{5}{8}$; tail, 2 $\frac{1}{8}$; wing, 3; tarse, 1; central toe and nail, $\frac{3}{4}$; hind, less $\frac{5}{8}$.

SYLVIANÆ.

Genus *Tarsiger*, mihi.

Bill equal to head, straight, subdepressed, feeble, gradually widening from the tip; the upper mandible more than half exceeded by the nareal fosse, and much overlaid by the soft frontal plumes; nares broad lunate, forward, apert, shaded by a nude membrane; tip of bill obtuse, and nearly unarmed; gape rather wide and ciliated; wings submedial, round rather than acuminate, firm; fifth quill longest; 4-6 and 3-7 respectively equal; alars and caudals wedged and mucronate; tail medial, rounded; tarse very elevate, slender and smooth; toes ambulant, simple; laterals unequal, hind rather large; nails large, slender, simple; hind largest. Exclusively monicolous; dwells in low brushwood solitarily, and is much on the ground, feeding chiefly on small ground insects. Makes its nest on the ground, saucer-shape, of moss, and places it under cover of some projecting root or stone; eggs verditer. Has much analogy with both the last genera, which it represents among the feebler *Sylvianæ*, to which it belongs, as they to the *Philomelinæ*. It differs from the last by its feebler, more depressed bill, larger and more membranous nares, and more slender legs and feet; also by its mucronate and wedge-tipped alars and caudals. The mucronation allies it to *Muscisylvia*, from which it differs by its less ample wings and tail, more elevate tarse, and feebler bill.

Type, *T. chrysæus*, mihi.—Below the whole body with the entire shoulders, the lower back and greatest part of tail, deep gamboge-yellow; superciliary line the same; head above, neck and upper back, yellow-tinted olive; lores, orbits and ears continuously, central caudals and tips of the others black; alars dusky black, fringed on the lower edges with yellow; legs fleshy brown; bill horn-yellow below, dusky above. Female duller-hued, devoid of the black cheek-mark and superciliary line; her body above entirely olive-green; alars and caudals dusky olive. Length, 5 $\frac{3}{4}$ inches; bill, $\frac{1}{16}$; tail, 2 $\frac{1}{4}$; wing, 2 $\frac{5}{8}$; tarse, 1 $\frac{5}{16}$; central toe and nail, $\frac{1}{16}$; hind, $\frac{1}{16}$.

Genus *Orthotomus*, Horsf.

1st subgenus, *Orthotomus*.

Bill sub-certhian, long, slender, inclining to arch, and entire, with the base largely exceeded by the nareal fosse; nares large, membranous, free, the aperture lunate-linear and shaded above by a large unarched membrane; rictus slightly bristled; wings short, bowed, and feeble, but not perfectly rounded; first four quills conspicuously graduated in a diminishing ratio; 5-6 equal and longest; tail moderate, narrow, feeble, much-rounded, with the two central plumes frequently elongated, as in the Bee-eaters; tarse high, stout, double that of the central toe, and strongly scaled; toes short, unequal, the outer fore longer and basally connected; the hind large and strong;

nails strong and acute, the hind largest. Nearly confined to the hills; rare below in the cold season; solitary or in pairs; familiar; dwells in low bushes and hedge-rows and fences, picking up minute insects from the leaves and decayed wood, and frequently descending to the ground, where they move fitfully, by hops, to take minute insects, and presently return to their low perch. Make beautiful pen-sile nests, by sewing together the edges of large leaves, and hence are called 'Patia' or the 'Leaf-bird' in the hills.

Type, *Sylvia putoria*, v. *sphenura*, v. *ruficapilla*, Auct.—Above vernal green, below white; the great alars and caudals dusky; the top of the head brown-red; bill dusky horn; legs fleshy brown; iris brown. Female similarly coloured, but wanting almost entirely the prolonged central tail-feathers of the male, and smaller. Length (of male), $5\frac{1}{2}$ inches; bill, $\frac{3}{4}$; tail, $2\frac{3}{4}$; closed wing, $1\frac{7}{8}$; tarse, $\frac{7}{8}$; central toe and nail, $\frac{9}{16}$; hind, $\frac{7}{16}$. Weight $\frac{1}{3}$ or $\frac{1}{4}$ oz. Has a loud shrill monosyllable note—*tee-tee-tee*. I suspect there are two species, because the eggs differ in colour in the nests brought me, some being verditer-blue and unspotted, and others bluish white, with fawn spots. The latter, I think, belong to the above, and the former to a smaller species, having the caudal appendage very little developed. I call this

Orthotomus Patia, and subjoin the following measurements. Length (of male), $4\frac{3}{4}$ inches; bill, $\frac{5}{8}$; tail, $1\frac{3}{4}$; wing, $1\frac{7}{8}$; tarse, $\frac{1}{2}$; central toe and nail, plus $\frac{9}{16}$; hind, $\frac{7}{16}$.

2nd subgenus, *Prinia*, Horsf.

Bill shorter and straighter, but still longer than the head, and not notched; less cut out at the base by the nareal fosse; rictus hispid; nares smaller, with wider aperture; wings yet shorter and absolutely rounded, with the first five quills conspicuously gradated up to the sixth and longest; tail ampler, more elongate and more gradate, fan-shaped, feeble; legs and feet slighter. Manners and nidification of the last, but a lowlander, being more rarely found in the hills than these.

Type, *Prinia fusca*, mihi.—Length 5 inches; bill, $\frac{9}{16}$; tail, $2\frac{1}{8}$; wing, less $1\frac{3}{4}$; tarse, $\frac{1}{2}$; central toe and nail, $\frac{9}{16}$; hind, $\frac{7}{16}$. Above lutescent brown; laterally luteous; below white; tips of the caudals with black drops, margined with white; bill dusky; legs carneous; iris brown.

2nd species of *Prinia*, *P. brunnifrons*, mihi; *ruficapilla*, Auct.?—Above olive-brown, deeper and ruddier on the cap, wings and tail; below sordid white; under tail-coverts sordid olive, and the thighs the same; bill yellow horn; legs plumbeous grey; tail smaller than in the last. Length, 4 inches; bill, plus $\frac{1}{2}$; tail, $1\frac{5}{8}$; tarse, $\frac{3}{4}$; central toe and nail, $\frac{1}{2}$; hind, $\frac{7}{16}$.

Remark.—Aberrant towards *Horeites* by its smaller tail and more perfect foot. This is a common species in the plains, and may possibly be the Tailor-bird of authors rather than our *Patia*, which is rare there.

3rd subgenus, *Horeites*, mihi.

Bill shorter than the head, quite straight, cylindric, feeble, distinctly notched; nares basal, ovoid, covered with a membranous scale; legs and feet stronger than in either of the above, and more suited to ground action; tarse high, strong, and heavily scaled, as in *Orthotomus*; toes longer, more ambulant, with the laterals equal and central elongated; rictus quite smooth; wings and tail as in *Prinia*, or as in *Orthotomus*. Inhabits the northern region near the snows, dwelling in brushwood and being much on the ground.

1st species, *H. pollicaris*, mihi.—Remarkable for its small wings and tail and large hind digit, the tail being equal in length to the closed wing, which is perfectly rounded and short, as in *Prinia*. Above olive-brown; below and the eyebrow pale yellow; bill sordid corneous grey; legs fleshy grey. Length, $3\frac{1}{2}$ inches; bill, $\frac{7}{16}$; tail, $1\frac{5}{8}$; wing the same; tarse, $\frac{13}{16}$; central toe and nail, $\frac{10}{16}$; hind, $\frac{1}{2}$.

2nd species, *H. schistilatus*, mihi.—Has an ampler wing and tail than the last and a smaller thumb; its wing is as large as in *Orthotomus*, and its tail broad and fan-shaped, like *Prinia*. In colours very like *brunnifrons*, but distinguished by its broader ampler tail, larger wing, and shorter Regulus-like bill. Above uniform olive-brown; laterally pale slaty and below pure white; cap clear brown-red or chestnut. Dwells near the snows, like the last-named. Length, $4\frac{1}{2}$ inches; bill, $\frac{1}{2}$; tail, $2\frac{1}{16}$; wing, $1\frac{5}{16}$; tarse, $\frac{3}{4}$; central toe and nail, $\frac{5}{8}$; hind, $\frac{7}{16}$.

Allied to the last two species are some more Cachar birds of very similar manners and plumage, distinguished by a compressed bill, which is raised between the keeled nares, as in our *Stachyris*, and by the inner toe and nail of their strong ambulant feet being longer than the outer toe and nail. Some have the tarse smooth and the tail more or less scansorial, that is, cuneate in form and rather rigid or worn; these I call *Tribura*. The others have the tarse scutellate and rather longer, and the tail broad and fan-shaped, and not at all rigid or worn; these I style *Horornis*, though they hardly deserve subgeneric separation.

Genus *Tribura*, mihi.

Bill to gape equal to head or less, straight, cylindric, compressed; at base higher than broad, and having the ridge raised and keeled between the oval apert nares; tip of upper mandible scarcely inclined, but distinctly notched; rictus smooth; wings short and feeble, but not much or equally gradated; first two quills conspicuously gradated, three next subequal and longest; tail more or less elongated, and gradated throughout, rather cuneate than fan-shaped, and somewhat rigid or worn; tarse stout, smooth, longer than the mid toe and nail; toes and nails simple, compressed, inner fore with its nail exceeding the outer fore, central elongate, hind least; nails acute.

Type, *T. luteoventris*, mihi.

Tribura luteoventris, mihi.—Above olive-brown, with a luteous lustre; below lutescent laterally and albescent centrally; a pale line

over the eye; bill dusky horn; legs carneous. Length, $5\frac{3}{8}$ inches; bill, $\frac{9}{16}$; tail, $2\frac{1}{2}$; wing, $2\frac{1}{16}$; tarse, $\frac{13}{16}$; central toe and nail, $\frac{11}{16}$; hind, $\frac{8}{16}$. Inhabits the Cachar, among brushwood; manners unknown.

Genus *Horornis*, mihi.

General structure of *Tribura*, but the rictus more or less armed; the tarse strongly scaled; the wings more gradated, having the fifth or sixth longest, and the tail broad, fan-shaped, and not worn or rigid. Inhabits the northern hills; manners unknown.

Types, *fortipes* and *flaviventris*.

H. fortipes, mihi.—Above olive-brown, dark and pure; below and the brow yellowish; bill yellow horn; legs pure fleshy. Length, $4\frac{5}{8}$ inches; bill, $\frac{1}{2}$; tail, 2; wing, $2\frac{1}{16}$; tarse, $\frac{15}{16}$; central toe and nail, $\frac{11}{16}$; hind, $\frac{9}{16}$.

H. flaviventris, mihi.—Very similar to the last, but a smaller bird, with shorter tarse; above olive-brown; below and the brow greenish yellow and pale; bill and legs fleshy. Length, $4\frac{3}{8}$ inches; bill, $\frac{1}{2}$; tail, $1\frac{5}{8}$; wing, 2; tarse, $\frac{13}{16}$; central toe and nail, $\frac{11}{16}$; hind, $\frac{9}{16}$.

H. ? fulgiventis, mihi.—Aberrant; probably a *Tribura*, having the wing of that form, but the tail not worn or rigid, and hence perhaps that character may not be permanent. Above dusky olive-brown, diluted into greenish of a dusky cast below; bill and feet dark. Length, 5 inches; bill, $\frac{1}{2}$; tail, 2; wing, $2\frac{1}{4}$; tarse, $\frac{7}{8}$; central toe and nail, $\frac{11}{16}$; hind, $\frac{1}{2}$.

H. ? fulviventris, mihi.—Above saturate olive-brown; below sordid luteous, shaded on the flanks with the upper hue; bill and legs dusky grey. Length, $4\frac{7}{8}$ inches; bill, $\frac{9}{16}$; tail, $1\frac{7}{8}$; wing, $2\frac{1}{8}$; tarse, $\frac{13}{16}$; central toe and nail, $\frac{11}{16}$; hind, $\frac{8}{16}$.

Our singular genus

Temnoris (olim *Suthora*),

and which name, if objected to, may give place to *Hemirhynchus*, is I think a Parian form, being much allied to the small long-tailed Tits. It seems however to group well with our *Heteromorpha* and *Conostoma* and Gould's *Paradoxornis*, and the whole may perhaps fall into the *Glaucopinæ*. There are two species of *Suthora* confounded by me under the name of *nipalensis*; I now erase that name, and substitute *atrifrons* and *fulvifrons*, thus:

T. atrifrons, mihi.—General colour bright rusty, palest on the belly and vent, brightest on the wings; false wing black; margins of the prime alars albescent; caudals and alars internally blackish, and apertly so towards their tips; head saturate slaty, margined laterally and in front by a darker zone, and passing into diluted slaty, mixed with rusty on the sides of the neck; chin transversely barred black; cheeks albescent; bill dusky, with a bluish base; legs sordid grey. Length, $4\frac{1}{4}$ inches; bill, less $\frac{1}{4}$; tail, $2\frac{1}{4}$; wing, $1\frac{15}{16}$; tarse, $\frac{3}{4}$; central toe and nail, $\frac{1}{2}$; hind, $\frac{3}{8}$.

T. fulvifrons, mihi.—General hue of the preceding, but the head and neck concolorous with the back; the cheeks not whitened,

the chin unbarred, and the size larger; bill paler or fleshy, with a dusky ridge. Length, $4\frac{1}{2}$ inches; bill, $\frac{1}{4}$; tail, $2\frac{1}{2}$; wing, $2\frac{1}{16}$; tarse, $\frac{13}{16}$; central toe and nail, $\frac{9}{16}$; hind, $\frac{7}{16}$.

MUSCICAPINÆ.

Genus *Chelidorynx*, mihi.

General structure of *Rhipidura*, but the bill very short and *Cryptolopho-hirundine*, being as broad as long from the forehead and very slightly armed at the tip; rictal bristles long, as in *Rhipidura*; nares advanced, lateral, elliptic, and shaded above by a membrane; tail rigid, with wedged tips to the plumes, smaller and less rounded than in *Rhipidura*.

Type, *Ch. chrysoschistos*, mihi.—Above slaty, with a greenish smear; below bright yellow; wings and tail dusky; shafts of the caudals whitened; ears, lores and orbits black. Length, $4\frac{7}{8}$ inches; bill to gape, $\frac{3}{8}$; tail, $2\frac{1}{3}$; wing less $2\frac{1}{4}$; tarse, $\frac{9}{16}$; central toe and nail, $\frac{2}{16}$; hind, $\frac{5}{16}$. Weight $\frac{1}{4}$ oz. Inhabits the central hilly region and great valley, on skirts of woods, among shrubs and low trees; very lively and shows itself much; solitary or in pairs. Stomach distinctly muscular; diet small insects.

This type seems to require a place between *Rhipidura* and *Cryptolopha*, to which last it is allied by the bill, which however is shorter and broader, leading to the next singular form, which is a flycatcher in the guise of a swallow, and forms with this one a perfect passage from the Flycatchers to the Swallows.

Genus *Hemichelidon*, mihi.

General structure of a swallow, with only something Muscicapin in wings and rictus; bill as in *Hirundo* exactly, but the gape hardly so wide and slightly bristled; nares round and vertical, as in *Hirundo*; wings long and pointed; 1st quill spurious, 2nd long, 3rd longest; tail moderate and subfurcate; legs and feet small and slender. Types, *H. fuliginosa* and *ferruginea*.

H. fuliginosa, mihi.—Uniform sooty brown, darkest on the wings and tail, and shaded with white on the belly, vent, and under tail-coverts; the body below paler than above. Length, $4\frac{5}{8}$ inches; bill, $\frac{1}{2}$; tail, 2; tarse, $\frac{7}{16}$; central toe and nail, less $\frac{7}{16}$; hind, $\frac{5}{16}$; wing, $2\frac{3}{4}$.

H. ferruginea, mihi.—Size and proportions of the last; colour rusty brown, passing to olive on the cap; alars and caudals internally blackish, and more or less so apertly; bill dusky caraneous; legs pure fleshy; tail (in both) moderate and slightly forked.

Found only in the hills, and chiefly the central region; dwell in woods and have the general manners of the Flycatchers, but with a bolder and more continuous flight.

Genus *Hemipus*, mihi.

General structure of *Rhipidura*, passing to *Myiagra*; legs and feet very small; bill more or less elongated and cylindric; rictal bristles

moderate, that is, shorter than in *Rhipidura*; tail gradated and narrow.

Type, *H. picæcolor*, mihi.—Above dusky brown, passing to black on the wings and tail; a large oblique central bar of white down the wing; two bars on the croup, the margin of the black cap, and the terminal part of the lateral alars white; below pale sooty to the breast, thence to tail-coverts albescent; bill and legs black. Female wanting the black cap of the male. Length, $5\frac{3}{4}$ inches; bill, $\frac{11}{16}$; tail, $2\frac{5}{8}$; wing, $2\frac{1}{2}$; tarse, $\frac{1}{2}$; central toe and nail, $\frac{7}{16}$; hind, $\frac{5}{16}$.

Inhabits the hills generally; chiefly procured in the great valley.

ALAUDINÆ.

Genus *Heterura*, mihi.

Bill to gape equal to the head, to brow much less than the head; Anthine in the general character, but stronger, with the culmen, commissure and gonys more or less curved; base of the upper mandible a good deal cut out by the nareal fosse, and its tip inclined and notched; tomia trenchant and scarpt internally; nares advanced, lateral, oval, shaded above by a nude scale-like membrane; rictus to eye, and slightly bristled; wings very short, not surpassing the base of the tail, yet strictly Alaudine in all their details, with the primes ungraduate, the tertials equal to primes, and all the centrals notched at the tips and emarginated on the outer web towards the tips, as in the Alaudines; 1st quill equal to 5th, and both rather less than 2, 3, 4, which are equal and longest; tail ample, *scansorial*, that is, distinctly rigid, and the separate plumes acutely wedged; form of the tail Parian, or slightly gradate from centre and from sides; legs and feet strong and typically ambulant, with high scutellate tarse and medial, compressed, full, solid toes, having the laterals equal, the central sufficiently long, and the hind least and not depressed; nails simple, slender, fully curved; hind long and nearly equal to the digit.

Exclusively monticolous; found in the brushy uplands of the central region; feed and breed on the ground; food grylli and other insects and seeds; stomach strongly muscular; intestines of medial length and furnished with tiny cæca. Nest made loosely of grass and saucer-shaped; eggs bluish, thickly spotted. Type, *H. sylvana*, mihi.

H. sylvana.—Above clear brown, picked out marginally with clear rufous, as in the Larks; below rufescent, with narrowing central stripes; chin immaculate; a dark mustache; superciliary line pale; tail-feathers internally and laterally albescent; upper coverts prolonged and pointed, as in the Larks; bill sordid fleshy or horn; legs clear, carneous; iris brown; sexes alike. Length, $7\frac{1}{2}$ inches; bill to gape, $\frac{11}{16}$; tail, $2\frac{7}{8}$; wing, 3; tarse, $1\frac{1}{16}$; central toe and nail, $\frac{15}{16}$; hind, $\frac{3}{4}$.

Remark.—This singular bird has been thus particularly described because of the difficulty of sparing details by anything like an assured allocation of it. It seems to be an analogous form to *Praticola*, and

to belong to the *Alaudinæ*, near *Brachonyx*. Its tail in form reminds one of *Dolichonyx*.

PARIANÆ?

Genus *Accentor*, Auct.

These birds are found in the central and northern regions of the hills only, and chiefly in the northern. We have four species, all of which are I believe new.

1. *Acc. Nipalensis*, mihi.—Head and neck dusky olive; body above ferruginous, with large central dashes of black; shoulders and all the wing-coverts dusky, with white drops; alars and caudals blackish, with ochreous red margins; breast and belly ochreous; under coverts of the tail dusky, picked out with white; bill dusky, with a yellow horn base; iris golden brown; legs sordid brown. Length, $6\frac{1}{2}$ inches; bill, $\frac{10}{16}$; tail, $2\frac{5}{8}$; wing, $3\frac{1}{2}$; tarse, 1; central toe and nail, $\frac{13}{16}$; hind, $\frac{10}{16}$.

2. *Acc. Cacharensis*, mihi.—Very similar in colours to the last, but larger, and the wing proportionally longer; head and neck, shoulders and wing-coverts dusky; throat white, with black bars; breast and belly deep clay-red; back and upper tail-coverts rusty, with large central blotches of blackish; alars and caudals blackish, margined and tipped with rusty red; vent dusky, picked out with whitish; bill yellow horn, with dusky tip; legs fleshy. Length, 7 inches; bill, $\frac{11}{16}$; tail, less 3; wing, $3\frac{7}{8}$; tarse, $1\frac{1}{16}$; central toe and nail, $\frac{13}{16}$; hind, $\frac{10}{16}$.

3. *Acc. immaculatus*, mihi.—Least of the three; not unlike them in colours, but the plumage more uniform and freer from spots and blotches; head and neck dusky olive, passing gradually into embrowned ochreous red on the body above and below, as well as on the whole visible part of the closed wing; shoulders pale slaty blue and unspotted; alars and caudals dusky brown, and nearly void of brighter margins or tips; bill blackish; legs fleshy grey; iris straw-colour. Length, only 6 inches; bill, $\frac{9}{16}$; tail, $1\frac{7}{8}$; wing, $2\frac{7}{8}$; tarse, $\frac{7}{8}$; central toe and nail, $\frac{3}{4}$; hind, $\frac{9}{16}$.

4. *Acc. strophiatatus*, mihi.—Above and laterally sordid rusty, with black central blotches; below white, with similar marks, but smaller and paler; wings and tail black-brown; the alars and their coverts margined with embrowned rusty; ears and lores margined towards the body all round with bright rusty, and a large gorget of the same on the top of the breast; from nares to brow a white line, joining the red one above spoken of; bill dusky horn; legs fleshy brown; iris brown; wings shorter and tail longer than in any of the others. Length, 6 inches; bill, plus $\frac{1}{2}$; tail, $2\frac{3}{8}$; wing, $2\frac{1}{2}$; tarse, $\frac{14}{16}$; central toe and nail, $\frac{3}{4}$; hind, $\frac{9}{16}$. Weight less 1 oz. Breeds on the ground, making a saucer-shaped nest of moss, well-compacted. These birds are much on the ground and have an ambulatory structure of legs and feet: I should place them among the Finches, near to the next-named, or Buntings, which also are exclusively monticolous I believe,

and are found in the central and northern regions. They are constantly flushed from the ground in corn-fields and are comparatively familiar birds to the Accentors, which avoid houses and cultivation.

Genus *Emberiza*.

We have four species, three of which are the *erythroptera*, *chlorocephala*, and *aureola* of authors, and the fourth is I think new, as follows:—*Emberiza oinops*, mihi.

New subgenus, *Ocyris*, mihi.

Bill very acute and perfectly conic, without any curve along the culmen or gonys; mouth simply angulated, without palatal knob; wings with 2–3 longest and equal.

Type, *E. oinops*, mihi.—Above rusty red, picked out with large blackish central dashes; below white, with narrower dark marks, and none on the lower belly and vent; wings and tail black-brown; wing with large ruddy margins; alars internally and laterally albescent; head and face rusty red, with two longitudinal black marks on the crown and another circling round the ear from the eye nearly to gape; bill dusky horn; legs embrowned fleshy; iris brown. Length, $5\frac{1}{2}$ inches; bill, $\frac{7}{16}$; tail, $2\frac{3}{8}$; wing, $2\frac{3}{8}$; tarse, $\frac{3}{4}$; central toe and nail, $\frac{5}{8}$. Weight $\frac{1}{2}$ to $\frac{3}{4}$ oz. Sexes alike. Stomach gizzard-like; contents seeds and gravel.

PYRRHULINÆ.

Genus *Loxia*.

L. himalayana, mihi.—Structure typical and plumage very similar to that of the European type, and indeed I believe to all the known species; size small, and most resembling the American bird; most part of the head and neck and whole body below red, of a hue between roseate and blood, and more or less sordid; rest of the head, neck, back, wings and tail deep dusky brown, more or less suffused, and emarginated with the richer colour; wings long, reaching two-thirds down the tail; 1–3 quills rather shorter than the second; legs and feet strong; tarse heavily scaled, less the mid-toe and nail; lateral fore-toes equal and basally connected; hind large, equal alone to the laterals, and, *with* its large nail, much exceeding them; claws large, but not greatly curved. Female dusky brown above, slightly suffused and margined with vernal greenish yellow; below greenish yellow, with dusky centres to the plumes; bill and legs in both blackish; female smaller. Male measures $5\frac{5}{8}$ inches; bill, $\frac{9}{16}$; tail, $2\frac{3}{16}$; wing, $3\frac{1}{4}$; tarse, $\frac{10}{16}$; central toe and nail, $\frac{11}{16}$; hind, $\frac{10}{16}$. Inhabits the Cachar only, near the snows, and rare there.

To the same region are for the most part confined the other thick-billed Finches of the genera *Coccothraustes*, *Corythus*, *Pyrrhula*, and their allies; but most of these pass into the central hilly region in spring in search of ripe fruits and berries, and in the winter some of them proceed to the plains in search of food and warmth, or are carried there by dealers. The Himalayan Siskin is almost always found

in the central region, where indeed it is commoner than in the northern; and one of the roseate Finches is very common below in the winter, under the name of the Tooti or Surkha Tooti. This I believe is the *Hæmorrhous rosea* and *Coccothraustes rosea* of authors: it is an anomalous or osculant form, which cannot I think be referred to any known genus. I call it *Pyrrhulinota*, because it unites a semi-pyrrhuline bill with the wings, tail and feet of *Linaria* and *Linota*.

Genus *Pyrrhulinota*, mihi.

Bill Pyrrhulo-Linarian; wings long and pointed, with the first quill usually longest; tail deeply forked; tarse rather shorter than the mid-toe and nail; toes long, laterals unequal, central long, hind least, but with the nail equal to the inner fore; nails simple.

Type, the common Tooti or Surkha Tooti of Hindostan; *Coccothraustes roseata* of Vieillot? *P. roseata*, mihi.

The other two rosy Finches of the hills are much less known below, though they also are found there, in the hands of dealers at least, and are called without distinction Goolabi Tooti. They are the *Fringilla rhodopepla* and *rhodochroa* of Vigors, apud Gould; but they are not I think true *Fringillæ*, but nearer to *Passer*. I denominate them

FRINGILLINÆ.

Genus *Propasser*.

Bill Passerine, with the culmen and gonys more or less curved or straight, and the tip distinctly notched; wings short, first quill less than three next, and longest; tail forked; legs and feet ambulant; tarse longer than mid-toe; toes compressed, laterals equal, central long, hind least; nails simple. Types, *rhodochroa* and *rhodopepla*.

We have in the northern region chiefly two species of true Bullfinch or *Erythrocephala*, Gould, and *Nipalensis*, mihi, to which we must add a third species, styled *epauletta* by me, but which deviates too much from the typical form to remain under *Pyrrhula*; I separate it as a new type, by the name of

Pyrrhoplectes.

Bill Pyrrhuline, but longer and less tumid, with the upper mandible subterminally, and the lower subcentrally notched; the gape angulated; wings shorter and more gradate than in *Pyrrhula*, with the fourth quill commonly longest; tail even or divaricated, not forked; legs and feet slenderer, longer, and more suited to action on the ground than in *Pyrrhula*. Type, *Pyrrhula epauletta*, As. Trans. vol. xix.

Propyrrhula Rubeculoides, mihi.—Above, together with the lower breast, belly and vent, smoky brown; face as far back as the eye, chin, throat and breast, bright red, of a sanguineous scarlet hue; bill dusky horn, paler below; legs dusky. Female fulvous, below with large central dashes of dusky brown, and the croup the same.

I shall conclude this paper with the description of a new and splendid species of Buzzard, peculiar to the Cachar and Tibet.

FALCONIDÆ.

BUTEONINÆ.

Genus *Buteo*?

Buteo leucocephalus, mihi.—General structure Buteonine, but the tarse two-thirds plumed to the front, and the nude part reticulate, not scutellate; acropodia half reticulate and half scutellate; colour medial brown, with the head and neck more or less perfectly albescent; chin to breast darker, and breast again paled crescent-wise; tail with frequent pale buff bars; bill blue; its tips and the talons black; legs and cere greenish yellow; iris hoary; size extremely large. Length, $25\frac{1}{2}$ inches (fœm.) by $58\frac{1}{2}$ in expanse of wing; closed wing, $17\frac{3}{4}$; bill to gape, 2; tail, $11\frac{1}{2}$; tarse (to sole), $3\frac{5}{8}$; central toe and nail, $2\frac{3}{8}$; hind, $1\frac{3}{4}$. Weight $3\frac{1}{2}$ lbs. Caught beyond the snows in Tibet.

Another species, with the tarse considerably plumed, leads to this bird from the Moor Buzzards. This second species has the general form and characters of the moor buzzard, but is distinguished at once by half the tarse being plumed; the tarsi likewise are shorter, and so are the toes; but the tarse is scutellate before and behind, as in that species and the rest of the Buzzards. There is no sign of the Circine facial disc in the present bird, which is I believe new, and belongs to *Buteo* proper and not to *Circus*.

Buteo plumipes, mihi.—Throughout of a uniform dusky brown, as in the moor buzzard; region of the lores only albescent; cere and legs greenish yellow; bill blue, with black tips and talons; tail very vaguely rayed with a paler shade of colour and wings internally. Of slender make, and with long and acute talons, whereas the white head is of very robust make, and has less acute but stronger talons. This is in make as in colours, a *Circus*; that, a buzzard proper or an eagle. In *plumipes* the tarse is scutellate before and behind, reticulate to the sides and at base, and two-thirds of the acropodia likewise are reticulate. The cere is large in both, and in both the nares are longitudinally cleft and irregularly ovoid in form. The one passes towards *Buteo* from *Circus*, the other towards *Aquila* from *Buteo*. Length (fœm.), $19\frac{1}{2}$ inches; bill, $1\frac{1}{4}$; tail, 9; tarse, 3; central toe and nail, 2; hind, $1\frac{1}{4}$. Procured in the central hilly region. Manners not noted.

April 22, 1845.

Richard C. Griffith, Esq., in the Chair.

"Descriptions of new species of *Helix*, in the cabinet of H. Cuming, Esq.," by Dr. L. Pfeiffer.

HELIX PONDEROSA, Pfr. *Hel. T. imperforatâ, subglobosâ, tumidâ, solidâ, ponderosâ, læviusculâ (striis incrementi et concentricis confertissimis vix perspicuis), albâ, basi epidermide nitidâ, pallidè corned indutâ; anfractibus $4\frac{1}{2}$ convexiusculis, ultimo subangulato, fasciis albis hydrophanis infra angulum obsoletè notato; columellâ rectâ, latâ, perobliquâ; aperturâ subauriformi, intus albâ; peristomate latè reflexo.*

Diam. long. 23; transv. 17; altit. $13\frac{1}{2}$ lin.

From Banguay, province of North Ilocos, isle of Luzon: found on leaves of trees. (Cuming.)

Differt ab *Hel. latitante* magnitudine, colore et sculpturâ minutissimâ.

HELIX SEMIGLOBOSA, Pfr. *Hel. T. subperforatâ, semiglobosâ, tenui, lutescenti-cornedâ, supra minutissimè granulatâ; suturâ vix impressâ; anfractibus 6 planis, ultimo carinato, infra carinam lævigato, nitido, fasciâ dilutâ brunneâ notato; umbilico angustissimo; aperturâ lunari-ellipticâ, intus fasciatâ; peristomate simplice, acuto, margine columellari latè reflexo, umbilicum semitegente.*

Diam. 22; altit. 13 lin.

From the isle of Zeyte: found on leaves of trees. (Cuming.)

β. *Anfractu ultimo magis inflato, saturatius brunnescente* (Catbalonga, isle of Samar).

HELIX OBTUSA, Pfr. *Hel. T. imperforatâ, subglobosâ, tenui, striis incrementi et lineis impressis concentricis obsoletis subdecussatâ, nitidâ, latè castaneâ; spirâ subelevatâ, obtusâ; anfractibus 4 convexis, ultimo inflato; columellâ obliquâ, acutâ, albâ; aperturâ dilatâ, subauriformi, intus margaritaceâ; peristomate simplice, expanso.*

Diam. $17\frac{1}{2}$; altit. 13 lin.

From Catanauan, province of Tayabos, isle of Luzon: found on leaves of bushes. (Cuming.)

β. *Alba, minor* (diam. 15; altit. 10 lin.). From Zigas, province of South Camarines, Luzon: found on leaves of trees.

HELIX FILARIS, Valenc., Mus. Paris. *Hel. T. imperforatâ, depressoglobosâ, tenui, striis incrementi validis notatâ, albiddâ, epidermide pallidè corned deciduâ munitâ; spirâ parùm elevatâ, obtusâ; suturâ*

lineari, albo-marginatâ; anfractibus 4 planiusculis, ultimo obtusè angulato; columellâ obliquâ, margine granulosa; aperturâ dilatatâ, lunari; peristomate nigro, subincrassato, parùm expanso.

Diam. $19\frac{1}{2}$; altit. $12\frac{1}{2}$ lin.

From the island of Marinduque: found on leaves of trees. (Cuming.)

Intermedia inter *Hel. Valenciennesii* et *virginem*.

HELIX CONSTRICTA, Pfr. *Hel. T. imperforatâ, semiglobosâ, nitidâ, concentricè minutissimè striatâ, flavo-albidâ, fasciis 2 fuscis interruptis ad peripheriam ornatâ; anfractibus $4\frac{1}{2}$ convexiusculis, ultimo basi subplanato, ad aperturam subitò descendente, constricto; aperturâ lunari, intus nitidè flavâ; peristomate acuto, albo, latè reflexo, margine basali subincrassato; areâ columellari callosâ, subexcavatâ.*

Diam. $11\frac{1}{2}$; altit. $6\frac{1}{2}$ lin.

From Calapan, island of Mindoro: found on leaves of trees. (Cuming.) Affinis sequenti.

HELIX PARADOXA, Pfr. *Hel. T. imperforatâ, globoso-depressâ, nitidâ, concentricè subtilissimè et confertissimè striatâ, virescenti-flavâ, apice nigro-violaceo, areâ basali saturatè castaneâ; anfractibus 5 planiusculis, ultimo irregulari, lateraliter subcompresso, prope aperturam tumido; aperturâ lunari-ellipticâ; peristomate albo, acuto, latè reflexo, margine superiore intus callo castaneo munito, basi in dentem horizontalem incrassato.*

Diam. long. $12\frac{1}{2}$; transv. 10; altit. 7 lin.

From Sorsogon, province of Albay, isle of Luzon: found on leaves of trees. (Cuming.)

Affinis *H. Thersit.*, margine non carinato, colore et sculpturâ diversâ.

HELIX FODIENS, Pfr. *Hel. T. umbilicatâ, subglobosâ, tenui, diaphanâ, rufo-corneâ, obliquè confertim rugosâ; anfractibus $5\frac{1}{2}$ convexis, ultimo subangulato; umbilico pervio; aperturâ suborbiculari; peristomate simplice, ad umbilicum latè expanso.*

Diam. 11; altit. $7\frac{1}{2}$ lin.

From Banguay, province of North Ilocos, isle of Luzon: found partially buried in earth, under stones. (Cuming.)

β. *Minor, pallidior, anfractibus 5, diam. $9\frac{1}{2}$, altit. 6 lin.*

From Cagayan, isle of Luzon. (Cuming.)

Differt ab *H. frutico* testâ rugosâ et aperturâ magis dilatatâ, ab *H. tourannensi* rugis testæ, spirâ non acuminatâ, et peristomate intus non labiato.

HELIX SUCCINEA, Pfr. *Hel. T. depressâ, obsoletè subperforatâ, tenui, pellucidâ, nitidâ, succineâ; saturâ mediocri; anfractibus 5 celeriter crescentibus, vix convexiusculis; aperturâ lunari; peristomate simplice, acuto, margine columellari subreflexo, perforationem obsoletam tegente.*

Diam. 5; altit. 3 lin.

From Sorsogon, province of Albay, isle of Luzon : found on leaves of trees. (Cuming.)

HELIX GALLINULA, Pfr. *Hel. T. umbilicatá, lenticulari, acutè carinatá, solidá, flavescenti-griseá, fasciis nonnullis rufis et epidermide hydrophandá, maculas triangulares pallidas formante, ornatá; anfractibus $4\frac{1}{2}$ planis, ultimo ad aperturam subitò deflexo; aperturá horizontali, ellipticá; peristomate simplice, marginibus callo tenui junctis, basali reflexo, ad umbilicum mediocrem pervium arcuato.*

Diam. 13; altit. $4\frac{1}{2}$ lin.

From Bongabong, province of Nueva Ecija, isle of Luzon : found on trunks of trees. (Cuming.)

β . *Minor, testá basi obliquè rugulosá, aperturá lateraliter minus dilatátá.*

From Mt. St. Cristoval, province of Batangas, isle of Luzon. (Cuming.)

γ . *Testá utrinque lineis impressis obliquis, circa umbilicum subconcentricis notatá, fasciis obsoletis.*

From Daleguete, isle of Zebu. (Cuming.)

HELIX HORIZONTALIS, Pfr. *Hel. T. umbilicatá, depressá, solidá, obliquè striatá, carinatá, luteo-corned, rufo-fasciatá; fasciis 2 supra, 1 infra carinam; anfractibus 5 planis, ultimo supernè convexo, basi planulato, ad aperturam subitò ferè verticaliter deflexo; aperturá horizontali, integrá, oblongá; peristomate crasso, reflexo, carneo, marginibus parallelis.*

Diam. $15\frac{1}{2}$; altit. 7 lin.

From the island of Bantayon, Philippines : found on the trunks of trees. (Cuming.)

HELIX RADULA, Pfr. *Hel. T. umbilicatá, depressá, sublenticulari, solidiusculá, striis incrementi confertis et lineis acutè prominentibus concentricis exasperatá, pallidè corned, carinatá; anfractibus $6\frac{1}{2}$ convexiusculis, lentè crescentibus, ultimo basi inflato, lineis concentricis infra carinam obsoletis; umbilico mediocri, pervio; aperturá lunari-ellipticá; peristomate simplice, vix incrassato, marginibus callo lineari junctis.*

Diam. 10; altit. 5 lin.

From Sinait, province of North Ilocos, isle of Luzon : found under stones in earth. (Cuming.)

HELIX ACUTIMARGO, Pfr. *Hel. T. umbilicatá, depressá, supra planiusculá, basi convexá, tenui, pellucidá, pallidè corned, acutè carinatá, supra carinam striis nonnullis confertis, concentricis notatá; anfractibus 6 lentè crescentibus; umbilico mediocri, pervio; aperturá securiformi; peristomate simplice, acuto.*

Diam. 8; altit. 3 lin.—An adulta?

From the mountains of the isle of Negros : found on the leaves of bushes. (Cuming.)

HELIX BIANGULATA, Pfr. *Hel. T. subperforatá, scalæformi, tenui, corneo-rubellá, leviter striatá, nitidiusculá; anfractibus 7 lentè*

crescentibus, ultimo bicarinato; carinâ inferiore filari ad peripheriam, superiore per omnes anfractus adscendente; aperturâ lunari-ovali; peristomate simplice, acuto, perforationem angustissimam ferè occultante.

Diam. 8; altit. $4\frac{3}{4}$ lin.

From St. Frun, province of Cagayan, isle of Luzon: found in earth at the root of bushes. (Cuming.)

HELIX EXCENTRICA, Pfr. *Hel. T. subperforatâ, supernè planiusculâ, basi inflatâ, tenui, cernâ, nitidâ, striis excentricis subcostulatâ, acutè carinatâ; anfractibus 4 supra planis, rapidè crescentibus; aperturâ securiformi; peristomate simplice, acuto, ad perforationem angustissimam dilatato-reflexo.*

Diam. 9; altit. $4\frac{1}{4}$ lin.

From the isle of Siquijor: found on the leaves of bushes. (Cuming.)

Differt ab *H. smaragdina*, Grat., spirâ minus depressâ, anfractu ultimo minus inflato, et aperturæ formâ.

HELIX SPECTABILIS, Pfr. *Hel. T. subperforatâ, depressâ, solidâ, nitidissimâ, corneo-luteâ, fasciâ 1 rufâ percurrente ornatâ; spirâ parùm elevatâ; anfractibus $5\frac{1}{2}$ convexiusculis, ultimo infra fasciam angulato; aperturâ latè lunari; peristomate simplice, acuto, margine columellari subreflexo, perforationem tegente.*

Diam. 9; altit. 5 lin.—An adulta?—*Nanina* spec.?

From Bangojon, isle of Samar: found on the leaves of bushes. (Cuming.)

HELIX EXIMIA, Pfr. *Hel. T. umbilicatâ, depresso-globosâ, obliquè rugosâ et confertissimè granulosa, olivaceo-cornèâ, fasciis 5 fusco-viridibus ornatâ; anfractibus $4\frac{1}{2}$ convexiusculis, rapidè crescentibus, ultimo permagno, circa aream umbilicarem fuscâ compresso-inflato; aperturâ lunari-ovali, intus margaritaceâ, lilaceâ; peristomate simplice, angustè reflexo, umbilicum angustum senitegente.*

Diam. 21; altit. 14 lin.

From Vera Cruz, province of Honduras, Central America: found on leaves of trees. (Delatere.)

HELIX TRIGONOSTOMA, Pfr. *Hel. T. imperforatâ, trochiformi, tenui, obliquè striatâ, lineis nonnullis concentricis impressis notatâ, albâ, fasciis supernè linearibus, basi latioribus, fusco-violaceis ornatâ; spirâ latè conicâ; anfractibus $4\frac{1}{2}$ planiusculis, ultimo spiram superante, obsoletè angulato; columellâ brevi, callosâ; aperturâ subtriangulari; peristomate simplice, margine supero parùm expanso, columellari reflexo, adpresso.*

Diam. 14; altit. 9 lin.

From Vera Cruz, province of Honduras, Central America: found on leaves of trees. (Delatere.)

Affinis *H. teneræ*, Sow. Differt spirâ minus elevatâ, anfractibus planis, columellâ brevi et aperturæ formâ.

HELIX TENUIS, Pfr. *Hel. T. imperforatâ, subglobosâ, tenui, fuscâ, rufo-zonatâ, lineis obsoletis impressis, concentricis notatâ, epider-*

mide tenuissimá, sericiná indutá; spirá obtusiusculá; anfractibus 5 celeriter crescentibus, vix convexiusculis, ultimo magno, inflato, ad columellam obliquam, subtortam excavato; aperturá lunari-ovali; peristomate recto, simplice, basi subincrassato.

Diam. 16; altit. 11 lin.

Patria ignota. (E collectione Cumingianâ.)

HELIX DILATATA, Pfr. *Hel. T. imperforatá, subglobosá, solidá, pallidè luteá, lineis confertissimis brunneis, interruptis supra et infra fasciam concolorem medii anfractús ultimi pictá, apice albidá; spirá parvâ, obtusiusculá; anfractibus 4 rapidè crescentibus, ultimo amplissimo; columellá albo-callosá, arcuatá; aperturá maximá, obliquè ovali, intus lacteá; peristomate recto, intus incrassato.*

Diam. $17\frac{1}{2}$, altit. 12 lin.

Patria ignota. (E collectione Cumingianâ.)

GLANDINA OBTUSA, Pfr. *Glan. T. ovatá, utrinque attenuatá, apice obtusá, solidulá, pellucidá, pallidè carneá; anfractibus $5\frac{1}{2}$ vix convexiusculis, ultimo spiram paulò superante; suturá crenulato-marginatá; aperturá latiusculá; columellá verticali, basi subitò truncatá; peristomate simplice, marginibus callo tenuissimo junctis, dextro medio vix dilatato.*

Long. $9\frac{1}{2}$; diam. 5 lin.

From the Real Llejos, province of Nicaragua, Central America: found on leaves of bushes. (Cuming.)

May 13, 1845.

William Yarrell, Esq., Vice-President, in the Chair.

A skin of a *Boa constrictor*, fifteen feet in length, presented to the Society by Mr. Pontet, jun., was exhibited to the Meeting.

"Descriptions of new species of Land Shells, from the collection of Hugh Cuming, Esq.," by Dr. Louis Pfeiffer:—

1. *HELIX GRANDIS*, Pfr. *Hel. testâ imperforatâ, globoso-turbinatâ, solidâ, ponderosâ, striatâ, nigricanti-rufâ, epidermide griseo-fuscescente fasciatim obductâ; spirâ conicâ, apice pallidâ; anfractibus 6 vix convexiusculis, ultimo spirâ brevior, basi inflato, fortius striato; columellâ verticali, brevi, subtortâ; aperturâ latè lunari, intus margaritaceâ; peristomate nigricante, latè expanso, margine basali incrassato, reflexo, cum columellari valdè dilatato, albido angulum obtusum formante.*

Diam. 68; alt. 58 mill.

Found at Bangui, province of North Ilocos, island of Luzon, by H. Cuming, Esq.

2. *HELIX GMELINIANA*, Pfr. *Hel. testâ imperforatâ, globoso-depressâ, solidâ, irregulariter rugoso-malleatâ, carinatâ, nitidâ, pallidè viridè, ad suturam et infra carinam albo-cingulatâ; spirâ subelevatâ, apice obtusâ, albâ; anfractibus $4\frac{1}{2}$ vix convexiusculis, sensim accrescentibus, ultimo non descendente, basi planiusculâ; aperturâ angulato-lunari; peristomate subincrassato, margine supero breviter expanso, antrorsum arcuato, basali reflexo, columellari declivi, dilatato, albo-callosa.*

Diam. 23; alt. 13 mill.

Found at Bayambang, island of Luzon, by H. Cuming, Esq.

3. *HELIX LINNÆANA*, Pfr. *Hel. testâ umbilicatâ, depressâ, utrinque convexiusculâ, acutè carinatâ, pallidè fulvâ, supernè rugoso-malleatâ, basi minutè et obliquè rugulosâ; anfractibus $5\frac{1}{2}$ lentè accrescentibus, planulatis, ultimo basi subinflato, antè vix descendente; umbilico majusculo, cylindrico; aperturâ angulato-lunari, ad carinam crenaliculatâ; peristomate incrassato, carneo, marginibus callo junctis, supero brevi, expanso, basali arcuato, reflexo, columellari breviter descendente, subdilatatâ.*

Diam. 62; alt. 28 mill.

Locality unknown. Mus. Cuming.

4. *HELIX CHEMNITZIANA*, Pfr. *Hel. testâ imperforatâ, depressâ, solidâ, supernè radiatim plicato-malleatâ, undique granulosa, sub epidermide olivaceo-rufâ, acutè carinatâ; spirâ subelevatâ, obtusâ;*

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anfractibus 5 planis, ultimo basi convexo; aperturá subtriangulari, intus nitidá, carnea; peristomate carneo, margine supero subexpanso, basali reflexo, dente unico valido instructo, columellari stricto, dilatato, adpresso, inæqualiter pluridentato.

Diam. 57; alt. 26 mill.

Locality unknown. Mus. Cuming.

5. *HELIX BAINBRIDGII*, Pfr. *Hel. testá umbilicatá, depressá, subdiscoideá, solidá, striatá, undique granulatá, cinnamomeá, basi pallidá; spirá vix elevatá, obtusá; anfractibus 5½ planis, ultimo rotundato, basi vix convexo; aperturá perobliquá, lunato-subtriangulari, intus nitidá, carnea; peristomate subincrassato, carneo, marginibus callo junctis, supero latè expanso, basali reflexo, dente unico, valido, complanato instructá, columellari per dilatato, umbilicum mediocrem semi-occultante.*

Diam. 64; alt. 26 mill.

Found at Demerara by Mr. Bainbridge. Mus. Cuming.

6. *HELIX MARTINIANA*, Pfr. *Hel. testá obtestè perforatá, discoideá, acutè carinatá, solidá, striatá et minutissimè granulatá, olivaceofusca; spirá depressá; anfractibus 5 planulatis, ultimo non descendente, basi inflato, anticè profundè scrobiculato; aperturá depressá, latè angulato-lunari, intus lacteá; peristomate albo, incrassato, marginibus callo tenui junctis, supero expanso, basali reflexo, dentibus 2 conjunctis, columellari dilatato, dentibus 2 inæqualibus armato.*

Diam. 34; alt. 14 mill.

From the island of Jamaica. Mus. Cuming.

7. *HELIX SCHROETERIANA*, Pfr. *Hel. testá umbilicatá, depressá, lenticulari, acutè carinatá, solidá, obsolete granulatá, luteolá, utrinque rufo-latefasciatá; spirá subelevatá; anfractibus 5 planulatis, ultimo anticè deflexo, basi inflato, anticè profundè scrobiculato; aperturá subhorizontali, ellipticá; peristomate incrassato, latè expanso, reflexo, fusco-carneo, marginibus callo junctis, supero leviter arcuato, basali dilatato, umbilicum angustum semitegente, intus 3-4-dentato; dentibus 2 majoribus basi junctis, 1-2 minoribus propè columellam.*

Diam. 31; alt. 14 mill.

From the island of Jamaica; Mr. P. Gosset. Mus. Cuming.

Intermediate between *H. tridentina*, Fér., and *H. Martiniana*, Pfr. The position of the teeth is the same, but from the former it is at once to be distinguished by the sharp keel, from the latter by the deflexion of the last whorl.

8. *HELIX BRUGUIERIANA*, Pfr. *Hel. testá imperforatá, turbinato-globosá, solidá, nigro-castaneá, epidermide hydrophaná, fusca strigatá, sursum pallescente obductá; spirá conoideá, apice obtusá, purpureá, nitidá; anfractibus 5 convexiusculis, ultimo non descendente, basi vix convexo, denudato; columellá intrante, obliquá, strictiusculá, planatá, albá; aperturá lunato-ovali, intus lacteá;*

peristomate simplice, brevissimè reflexiusculo, intus nigro-marginato.

Diam. 29; alt. 24 mill.

Collected on the island of Tablas by H. Cuming, Esq.

9. *BULIMUS GILVUS*, Sow. *Bul. testâ imperforatâ, ovatâ, solidulâ, striatâ, sub epidermide gilvâ rufescens; spirâ apice obtusâ, nudâ, pallidâ; anfractibus 6 convexis, ultimo spirâ paulò breviorè; columellâ strictiusculâ, albâ, subexcavatâ; aperturâ obliquâ, lunato-ovali, intus lacteâ; peristomate subincrassato, breviter reflexo, margine dextro arcuato, columellari adpresso.*

Long. 54; diam. 38 mill.

Collected in several varieties on the island of Bohol, by H. Cuming, Esq.

GEOMELANIA, nov. gen.

Testa imperforata, turrita; apertura integra, effusa; peristoma simplex, reflexum, ad basin appendiculo porrecto instructum.

10. *GEOMELANIA JAMAICENSIS*, Pfr. *Geom. testâ truncatâ, turritâ, arcuatim costatâ, nitidâ, albâ; anfractibus 6 convexis, ultimo $\frac{1}{3}$ longitudinis subæquante; aperturâ ovali, intus nitidâ; peristomate simplice, margine dextro sinuoso, basi in appendiculum linguiformem porrecto, columellari adpresso.*

Long. 12; diam. 4 mill.

Found at Jamaica, "Savanah la Mar," under stones in earth, by M. Attanasio. Mus. Cuming.

11. *TOMOGERES TURBINATUS*, Pfr. *Tom. testâ rimatâ, compresso-turbinatâ, tenui, lævissimè striatulâ, pallidè cornèâ, nitidulâ; spirâ turbinatâ, acutiusculâ; anfractibus 5 convexis, ultimo spiram vix æquante, à latere compresso, basi subangulato, anticè adscendente, subtùs constricto, scrobiculato; aperturâ verticali, subauriformi, ferè clausâ; peristomate latè expanso, tenui, margine dextro arcuato, internè lamina validâ, supernè bifidâ, munito, basali obliquè descendente, tridentato; pariete aperturali lamellis 3 inæqualibus armato.*

Diam. maj. 11, min. $7\frac{1}{2}$; alt. 10 mill.

Hab. In Brasiliâ.

This interesting shell is nearly allied with *Tomogeres clausus*, Spix, but easily to be distinguished by the substance of its shell, by the raised spire and the thin peristome, characters quite constant in all specimens known.

"Descriptions of eighty-nine new species of *Mitra*, chiefly from the collection of H. Cuming, Esq.," by Lovell Reeve, Esq. :—

- MITRA FASTIGIUM.* *Mitr. testâ abbreviato-ovatâ, subventricosâ, solidiusculâ, spirâ brevi, acuminatâ; lævigatâ, basim versus exiliter sulcatâ; luteâ; columellâ quadriplicatâ, basi truncatâ; labro simplici, supernè sinuato.*

Conch. Icon., *Mitra*, pl. 28. f. 221.

Hab. — ?

A small, solid, compact cupola-shaped shell.

MITRA BULIMOIDES. *Mitr. testā elongatā, basi subtruncatā, spirā acuminatā; tenuiculā, subpellucidā, quasi corneā; albido-fuscescente; columellā quadriplicatā.*

Conch. Icon., *Mitra*, pl. 28. f. 224.

Hab. — ?

A smooth transparent horny shell.

MITRA RHODIA. *Mitr. testā elongatā, spirā acuminatā; læviusculā, transversim subtilissimè striatā; nigerrimo-fusca; columellā triplicatā, aperturā brevī.*

Conch. Icon., *Mitra*, pl. 28. f. 225.

Hab. — ?

Not much unlike the preceding species in form, but of a different colour and texture.

MITRA CÆLIGENA. *Mitr. testā ovatā, spirā breviusculā, suturis profundis; transversim sulcatā, sulcis subpunctatis; luteo-fuscescente, albipunctatā, anfractuum parte superiori balteo angusto lutescente cingulatā; columellā quadriplicatā.*

Conch. Icon., *Mitra*, pl. 28. f. 226.

Hab. — ?

The entire surface of this species is speckled with small white spots.

MITRA AURICULOIDES. *Mitr. testā ovatā, crassā, solidā, basim versus striatā, spirā brevī, obtusā; rubido-castanēā, anfractuum parte superiori, balteo unico albo angusto cingulatā; columellā quinqueplicatā; labro intus supernè sinuato.*

Conch. Icon., *Mitra*, pl. 28. f. 228.

Hab. — ?

A dark chestnut-brown Auricula-shaped shell, encircled with a conspicuous narrow white belt.

MITRA DUPLILIRATA. *Mitr. testā elongatā, spirā valdè acuminatā, angustā, teretī, basi tortuoso-recurvā; transversim subtiliter dupliliratā, liris interstitiisque granulosis; albidā, aurantio-fusco hic illic concentricè flammātā; columellā quadriplicatā, basi subcanaliculatā.*

Conch. Icon., *Mitra*, pl. 29. f. 229.

Hab. — ?

This species has a peculiar tapering form, and by the aid of a lens it may be observed that the transverse ridges are all duplicate.

MITRA DISCOLORIA. *Mitr. testā ovatā, basi granulatā, spirā acuminato-turritā; anfractibus supernè prominentibus, longitudinaliter conspicuè costatis, costis latiusculis, obtusis, transversim impresso-lineatis; fasciis roseis et albis alternatā, fasciis roseis inter costas ustulato-nigricantibus; columellā quadriplicatā, aperturā parvā.*

Conch. Icon., *Mitra*, pl. 29. f. 230.

Hab. — ?

An extremely prettily painted species.

MITRA CORIACEA. *Mitr. testā ovatā, utrinque attenuatā, spirā breviusculā, acutē acuminatā; anfractibus supernè rotundatis, transversim impresso-lineatis, interstitiis granosis; anfractuum parte superiori albidā, infra fuscescente; columellā quinqueplicatā.*

Conch. Icon., *Mitra*, pl. 29. f. 231.

Hab. Island of Corrigidor, Philippines (found among coarse sand at the depth of five fathoms); Cuming.

A species of very peculiar character.

MITRA VERRUCOSA. *Mitr. testā ovatā, subventricosā, spirā breviusculā, acuminatā; longitudinaliter concentricè plicatā, plicis tuberculis parvis prominentibus mucronatis undique armatis; albā, fuscescente pallidè fasciatā; columellā quinqueplicatā.*

Conch. Icon., *Mitra*, pl. 29. f. 232.

Hab. Island of Ticao, Philippines (found in sandy mud in deep water); Cuming.

The tubercles with which the entire surface of this shell is covered are quite sharp and prickly.

MITRA ELEGANS. *Mitr. testā oblongo-ovatā, spirā acuminatā, suturis subprofundis; longitudinaliter subtilissimè costatā, costis angustis, interstitiis eleganter clathratis; albicante, aut pallidissimè carneo-fuscescente, lineā rubrā unicā aut pluribus cingulatā, apice fusco; columellā quadriplicatā.*

Conch. Icon., *Mitra*, pl. 29. f. 233.

Hab. Island of Burias, Philippines (found among coral sand and shells at the depth of four fathoms); Cuming.

This species is well characterized by the very elegant style of its sculpture and by the sharp red lines with which it is encircled.

MITRA DECORA. *Mitr. testā subfusiformi, basi contractā, spirā acuminato-turritā, suturis profundis; transversim impresso-sulcatā, liris intermediis granulosis, plicisque angustis concentricis subdistantibus longitudinaliter ornatā; albā, balteo aurantio-fusco, anfractu ultimo balteis duobus, cingulatā; columellā quadriplicatā, umbilicatā, subcanaliculatā.*

Conch. Icon., *Mitra*, pl. 29. f. 234.

Hab. — ?

The form, colour and sculpture of this species are each of peculiar interest.

MITRA MUTABILIS. *Mitr. testā abbreviato-fusiformi, spirā turritā, interdum elevatā, interdum breviusculā, suturis subprofundis; anfractibus supernè depressis, longitudinaliter concentricè costatis, costis angustis liris subtilibus transversis clathratis; albidā, olivaceo-viridi fasciatā, apice fusco; columellā quadriplicatā.*

Conch. Icon., *Mitra*, pl. 29. f. 235.

Hab. Island of Ticao, Philippines (found under stones at low water, and at the depth of about ten fathoms); Cuming.

An extremely variable species both in form and colour.

MITRA MILITARIS. *Mitr. testá subfusiformi, basi contractá, spirá acuminatá, suturis subprofundis; longitudinaliter costatá, costis obtusiusculis, interstitiis transversim impresso-lineatis; anfractibus supernè luteis, ultimo zona latá coccineo-rubrá cingulato; columellá quadriplicatá, umbilicatá.*

Conch. Icon., *Mitra*, pl. 29. f. 236.

Hab. Island of Ticao, Philippines (found on the sands); Cuming. Distinguished in part by the rich, broad, crimson-red band which encircles the last whorl.

MITRA TUBEROSA. *Mitr. testá obtuso-conicá, crassá, obesá, spirá brevi, basi truncatá; longitudinaliter plicato-costatá, costis rudibus, subdistantibus, supernè tuberculato-nodosis; transversim lineari-sulcatá, sulcis pertusis; luteo-olivaceá, aut fuscá, supernè albá, basi fuscá, albigulatá; columellá quadriplicatá.*

Conch. Icon., *Mitra*, pl. 30. f. 237, a and b.

Hab. Island of Zebu, Philippines (found under stones at low water); Cuming.

A small stout species, somewhat after the form of the *Mitra patriarchalis*.

MITRA FORTICOSTATA. *Mitr. testá abbreviato-ovatá, spirá sub-turritá; anfractibus supernè angulatis, infra angulum longitudinaliter costatis, costis solidis fortissimis, distantibus, basim versus subobsoletè granosis; nigerrimo-fuscá; columellá quadriplicatá.*

Conch. Icon., *Mitra*, pl. 30. f. 238.

Hab. New Holland.

Resembling *Mitra ficulina*, but of a much more solid and angular structure.

MITRA LOTA. *Mitr. testá oblongo-ovatá, spiræ suturis impressis, transversim subtilissimè impresso-striatis, longitudinaliter concentricè costatá, costis basim versus granosis; rufulo-aurantiá, viridifusco variegatá; columellá triplicatá.*

Conch. Icon., *Mitra*, pl. 30. f. 239.

Hab. Island of Ticao, Philippines (found under stones at low water); Cuming.

The painting of this species is of very irregular character.

MITRA CONSANGUINEA. *Mitr. testá ovatá, solidiusculá, obesá, basim versus contractá, spirá obtuso-rotundatá; transversim subtilissimè punctato-striatá, longitudinaliter confertim plicato-costatá, costis infernè granosis; rubidá, anfractibus maculis parvis rotundis in medio uniseriatim cinctis; columellá quadriplicatá.*

Conch. Icon., *Mitra*, pl. 30. f. 241.

Hab. — ?

Allied in some measure to the *Mitra pardalis*.

MITRA CREMANS. *Mitr. testá obeso-ovatá, spirá brevi, suturis subimpressis; lævi, basim versus granosá, longitudinaliter suboblique plicatá; nigerrimá, flammis rufo-aurantiis hic illic variegatá; columellá triplicatá.*

Conch. Icon., *Mitra*, pl. 30. f. 242.

Hab. St. Nicolas, island of Zebu, Philippines (found under stones at low water); Cuming.

This species may be known by its confused flame-like painting.

MITRA LEUCODESMA. *Mitr. testâ obeso-ovatâ, spirâ brevissimâ, longitudinaliter plicato-costatâ; lævi, apice crenulatâ, basi granulâtâ; nigerrimo-fusâ, anfractibus macularum albarum zonâ unâ in medio cingulatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 30. f. 243.

Hab. Island of Ticao, Philippines (found under stones at low water); Cuming.

Painted in a manner similar in some degree to the *Mitra microzonias*, from which it is materially distinct in form.

MITRA LAUTA. *Mitr. testâ obeso-ovatâ, solidiusculâ, spirâ obtusorotundatâ, longitudinaliter subobsoletè plicato-costatâ, costis lævibus, interstitiis impresso-striatis; costis, aurantio-rufis, interstitiis nigerrimis, anfractuum medio albo; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 30. f. 244.

Hab. Island of Masbate, Philippines (found under stones at low water); Cuming.

A stout, very prettily painted species.

MITRA LUCULENTA. *Mitr. testâ ovatâ, lævi, longitudinaliter subobsoletè plicato-costatâ, costis basim versus granosis; anfractibus zonis cæruleo-nigris et albis alternatim conspicuè pictâ, columellâ triplicatâ.*

Conch. Icon., *Mitra*, pl. 30. f. 245.

Hab. Philippine Islands; Cuming.

This species may be recognized by the decided character of the painting, which consists of alternate blue-black and white zones.

MITRA AVENACEA. *Mitr. testâ oblongo-ovatâ, transversim undique lirâtâ, liris angustis, elevatiusculis; flavescens-spadiceâ, juxta suturas albicante subindistinctè maculatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 31. f. 246.

Hab. Islands of Burias, Ticao and Capul, Philippines (found on the reefs and in sandy mud at the depth of about six fathoms); Cuming.

A solid, cylindrical, closely-ridged shell.

MITRA PICA. *Mitr. testâ ovatâ, tenuiculâ, subventricosâ, spirâ breviusculâ, acutâ; anfractibus lævibus, aterrimis, supernè et infernè niveis; columellâ triplicatâ; aperturâ subamplâ.*

Conch. Icon., *Mitra*, pl. 31. f. 247.

Hab. — ?

May be distinguished by the jagged white band with which its black whorls are encircled next the sutures.

MITRA CITHARA. *Mitr. testâ ovatâ, crassiusculâ, suturis impressis; longitudinaliter creberrimè costatâ, costis angustis, obtusis, interstitiis transversim clathratis; purpureo-plumbèâ, zonulâ pallidâ angustâ cingulatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 31. f. 248.

Hab. — ?

Of a peculiar purple lead-colour.

MITRA NYMPHA. *Mitr. testâ subfusiformi, spirâ acuminatâ; anfractibus transversim punctato-striatis; incarnato-fuscescente, albo maculato-variegatâ, anfractu ultimo fasciâ albidâ subindistinctâ cingulatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 31. f. 249.

Hab. — ?

A solid punctured shell, of a fleshy-brown or pale salmon-colour, variegated with white spots, particularly around the sutures.

MITRA CALLOSA. *Mitr. testâ oblongo-ovalâ, spirâ breviusculâ, suturis subimpressis; lævigatâ, basi liratâ; plumbeo-fuscâ, punctis fuscis hic illic variegatâ; columellâ fuscâ, quinqueplicatâ, callositate albâ supernè armatâ, plicis albis; labro subflexuoso.*

Conch. Icon., *Mitra*, pl. 31. f. 251.

Hab. Pasacao, island of Luzon, Philippines (found on the sands); Cuming.

Distantly allied to the *Mitra ebenus*.

MITRA ÆGRA. *Mitr. testâ fusiformi, spirâ acuminatâ, transversim undique crebriliratâ, liris lævibus, interstitiis puncturatis; fuscescente, roseo-albicante pallidè et indistinctè fasciatâ et maculatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 31. f. 252.

Hab. — ?

Like the *Mitra cylindracea* in form, but of a different sculpture.

MITRA MODESTA. *Mitr. testâ subfusiformi-ovalâ, basi contractâ, spirâ turratâ; anfractibus rotundatis, longitudinaliter costatis, interstitiis transversim cancellato-impressis; nived, rosaceo basim versus pallidissimè tinctâ; columellâ quadriplicatâ, aperturæ fauce rosaced.*

Conch. Icon., *Mitra*, pl. 31. f. 254.

Hab. Island of Ticao, Philippines (found on the reefs at low water); Cuming.

A chaste pink-white shell, with a highly-relieved lattice sculpture.

MITRA SEMEN. *Mitr. testâ ovalâ, utrinque attenuatâ, lævigatâ, politâ; castaneo-fuscâ lineis albidis undatis longitudinaliter pictâ; columellâ triplicatâ.*

Conch. Icon., *Mitra*, pl. 32. f. 256.

Hab. Puerto Galero, island of Mindoro, Philippines (found on the sands at low water); Cuming.

Covered with characteristic longitudinal waved lines.

MITRA MILIUM. *Mitr. testâ ovato-fusiformi, crassiusculâ, lineis elevatiusculis undique creberrimè decussatâ; rufescente-fuscâ; columellâ quadriplicatâ; aperturâ subangustâ, labro incrassato.*

Conch. Icon., *Mitra*, pl. 32. f. 257.

Hab. — ?

Belonging to a small group of a peculiar narrow contracted structure, with thickened lip, of which the *Mitræ gratiosa*, *recurva*, *exilis* and *mirifica* may be quoted as examples.

MITRA LACHRYMA. *Mitr. testâ ovatâ, utrinque attenuatâ, tenuiculâ, spirâ brevi, subobtusâ; anfractibus supernè longitudinaliter subtilissimè costatâ, transversim obsoletè elevato-striatâ; albâ, maculâ grandî aurantio-fuscescente dorso peculiariter pictâ; columellâ bi- vel tri-plicatâ, plicis ferè obsoletis, labro effuso.*

Conch. Icon., *Mitra*, pl. 32. f. 258.

Hab. — ?

A small white transparent-looking shell, which may be immediately recognised by the large brown stain on the back of the last whorl.

MITRA CIMELIUM. *Mitr. testâ abbreviato-fusiformi, spirâ turrîtâ, longitudinaliter costatâ, costis supernè tuberculatis; albâ, costis infra tuberculis lineis brevibus nigerrimo-fuscis transversim vividè pictâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 32. f. 260.

Hab. Island of Ticao, Philippines (found under stones at low water); Cuming.

The lower portion of the ribs of this species are crossed in a very peculiar manner with short brown parallel lines.

MITRA TURRIGER. *Mitr. testâ fusiformi, spirâ angulato-turrîtâ; anfractibus supernè angulatis, longitudinaliter costatis, costis angustis, ad angulum muricato-tuberculatis, interstitiis transversim impressis; albidâ, fasciâ castaneâ latiusculâ inter costas pictâ, columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 32. f. 262.

Hab. Island of Ticao, Philippines (found in sandy mud at the depth of six fathoms); Cuming.

A prickly sharply-turreted species, encircled with a brown band, which only appears in the interstices between the ribs.

MITRA CÆLATA. *Mitr. testâ cylindraceo-ovatâ, basi contractâ, paululùm elongatâ, spiræ suturis subprofundis; anfractibus longitudinaliter costatis, costis angustis, crebris, interstitiis impresso-cancellatis; lutescente-fuscâ, subindistinctè albifasciatâ; columellâ triplicatâ.*

Conch. Icon., *Mitra*, pl. 32. f. 265.

Hab. Cagayan, province of Misamis, island of Mindanao, Philippines (dredged from sandy mud at the depth of thirty fathoms); Cuming.

The upper portion of this shell has a peculiar cylindrically shortened structure, whilst the base is inclined to become elongated.

MITRA LUCIDA. *Mitr. testâ fusiformi, spirâ turrîtâ, basi subelongato-contractâ; anfractibus longitudinalit r costatis, costis supernè tumidis, transversim elegantissimè liratis; lucido albicante; columellâ quinqueplicatâ.*

Conch. Icon., *Mitra*, pl. 33. f. 266.

Hab. Philippine Islands; Cuming.

A delicate transparent species, of a peculiar elongated fusiform growth.

MITRA TYPHA. *Mitr. testâ subelongatâ, spirâ acuminatâ; transversim subtilissimè striatâ, corned, translucidâ, fasciâ latâ ferrugined cingulatâ; columellâ triplicatâ.*

Conch. Icon., *Mitra*, pl. 33. f. 267.

Hab. Loay, island of Bohol, Philippines (found under stones at low water); Cuming.

A minute horny-looking shell, encircled with a conspicuous orange-brown band.

MITRA TORNATA. *Mitr. testâ oblongo-ovatâ, spirâ acutâ, anfractibus convexis, transversim undique liratis, liris tribus supremis minoribus; lutescente-fuscâ, epidermide fuscâ indutâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 33. f. 269.

Hab. Island of Guimaras, Philippines.

The ridges of this species are remarkable for their close regularity and precision.

MITRA VULTUOSA. *Mitr. testâ ovatâ, spirâ breviusculâ; anfractibus convexis ad suturas depresso-planis, transversim costatis, costis crebris sulcis longitudinalibus angustis exsculptis; aurantio-fuscâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 33. f. 270.

Hab. Island of Capul, Philippines (found on the reefs); Cuming.

The longitudinal grooves impart a nodulous character to the transverse ribs.

MITRA GRANATA. *Mitr. testâ oblongo-ovatâ, crassâ, transversim undique lirâtâ, liris parvis subtiliter granatis; lutescente-fuscâ, apice albicante; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 33. f. 271.

Hab. Island of Ticao, Philippines (found under stones at low water); Cuming.

Crossed with finely-grained ridges.

MITRA PACIFICA. *Mitr. testâ oblongo-ovatâ, crassiusculâ, spirâ turritâ; anfractibus supernè angulatis, longitudinaliter lirâtâ, liris numerosis, angustis, transversim impresso-sulcatis; albâ, fasciâ fuscâ inter liras solum cingulatâ; columellâ quadriplicatâ, plicâ supremâ valdè maximâ, aperturâ breviusculâ.*

Conch. Icon., *Mitra*, pl. 33. f. 272.

Hab. Lord Hood's Island; Cuming.

Allied in form to the *Mitra exasperata*.

MITRA TURGIDA. *Mitr. testâ ovoïdâ, medio turgidâ, basi contractâ, spirâ brevi, acuminatâ; transversim undique lirâtâ, sulcis subirregularibus longitudinaliter impressâ; columellâ triplicatâ.*

Conch. Icon., *Mitra*, pl. 33. f. 273.

Hab. Island of Capul, Philippines (found under stones at low water); Cuming.

The sculpture of this species is of a somewhat similar character to that of the *Mitra tornata*.

MITRA AMABILIS. *Mitr. testâ ovatâ, crassiusculâ, spirâ obtuso-depressâ; anfractibus subrotundatis, longitudinaliter costatis, transversim impresso-sulcatis; cinereo-griseâ variè albifasciatâ; columellâ quadriplicatâ; aperturâ breviusculâ, intus fuscâ.*

Conch. Icon., *Mitra*, pl. 33. f. 274.

Hab. Islands of Ticao and Philippines (found under stones at low water); Cuming.

A pretty species, banded alternately with white and ashy grey.

MITRA PURPURATA. *Mitr. testâ ovatâ, utrinque attenuatâ, spirâ breviusculâ, subturritâ; anfractibus ad suturas plano-angulatis, longitudinaliter costatis, costis numerosis, angustis, prominentibus, interstitiis impresso-cancellatis; fusco-purpureâ, zonâ angustâ albâ cingulatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 33. f. 275.

Hab. Island of Capul, Philippines (found under stones at low water); Cuming.

The whorls of this shell being flatly angulated at the sutures, give a turreted character to the spire.

MITRA PUELLA. *Mitr. testâ rotundato-ovatâ, spirâ brevi, subobtusâ, suturis impressis; anfractibus transversim subtilissimè striatis, anfractus ultimi parte inferiori minutè nodiferâ; aterrimâ, anfractuum parte superiori maculis niveis pyriformibus, concentricè dispositis, conspicuè ornatâ; columellâ triplicatâ; labro intus denticulato.*

Conch. Icon., *Mitra*, pl. 34. f. 276.

Hab. Island of St. Thomas, West Indies; Gruner.

The pyriform white spots which encircle the upper portion of each whorl exhibit a striking contrast with the jet-black ground of the shell.

MITRA GRATIOSA. *Mitr. testâ elongatâ, subcylindrâ, liris prominentibus minutis creberrimè decussatâ; fuscâ; columellâ quinqueplicatâ, labro subincrassato.*

Conch. Icon., *Mitra*, pl. 34. f. 277.

Hab. Gallapagos Islands (found among coral sand at a depth of about seven fathoms); Cuming.

A narrow cylindrical shell, with beautifully decussated sculpture, and of an uniform brown colour.

MITRA MIRIFICA. *Mitr. testâ elongatâ, gracili, subcylindrâ, basi recurvâ, liris minutissimis creberrimè decussatâ; rosâ, subpellucidâ, zonâ angustâ albidâ cingulatâ; columellâ sexplicatâ, labro subincrassato.*

Conch. Icon., *Mitra*, pl. 34. f. 278.

Hab. Island of Capul, Philippines (found under stones at low water); Cuming.

The general aspect of this shell is very similar to that of the preceding species; upon examination it will be found however of a thinner and more slender structure, whilst the sculpture is of a smaller pattern, and the colour altogether different.

MITRA INERMIS. *Mitr. testá oblongo-ovatá, longitudinaliter creberrimè plicatá, basi sulcatá; rufescente-fusca, fasciá albidá, fusco subtilissimè undulatá, cinctá; columellá quadriplicatá.*

Conch. Icon., *Mitra*, pl. 34. f. 279.

Hab. Puteao, province of Albay, island of Luzon (found on the sands); Cuming.

Encircled with a white band, traversed with fine brown zigzag lines.

MITRA BRUMALIS. *Mitr. testá elongatá, subcylindraced, undique subtilissimè decussatá; lutescente, aurantio-fusco pallidissimè hic illic tinctá; columellá quadriplicatá.*

Conch. Icon., *Mitra*, pl. 34. f. 280.

Hab. Philippine Islands; Cuming.

A solid obtuse shell, with the lip slightly effused.

MITRA DÆDALA. *Mitr. testá subfusiformi-ovatá, spirá turritá; longitudinaliter costatá, costarum interstitiis fortiter clathratis; cinereo-viridescente, zoná albá conspicuá cingulatá; columellá quadriplicatá.*

Conch. Icon., *Mitra*, pl. 34. f. 281.

Hab. Island of Ticao, Philippines (found in sandy mud at the depth of six fathoms); Cuming.

The colour of this shell is a peculiar livid ashy grey.

MITRA SUTURATA. *Mitr. testá elongato-ovatá, basi subrecurvá, spiræ suturis profundè impressis; transversim undique angisulcatis, sulcis profundis, puncturatis, liris intermediis subgranosis; pallide stramineá; columellá quadriplicatá.*

Conch. Icon., *Mitra*, pl. 34. f. 282.

Hab. Gindulman, island of Bohol, Philippines (found under stones at low water); Cuming.

The entire surface of this shell is encircled with close finely granulated ridges, the interstices between which are deeply grooved and punctured.

MITRA TUSA. *Mitr. testá ovatá, spiræ suturis profundè impressis, longitudinaliter subtiliter costatá, transversim impresso-striatá; anfractuum parte superiori albidá, maculis grandibus subquadratis fuscis ornata, parte inferiori totá fusca; columellá quadriplicatá.*

Conch. Icon., *Mitra*, pl. 34. f. 283.

Hab. Puerto Galero, island of Mindoro, Philippines (found on the sands at low water); Cuming.

Distinguished by the dark chocolate-brown spots upon the upper part of the shell, whilst the lower part is entirely stained with the same colour.

MITRA MICANS. *Mitr. testâ subfusiformi-ovatâ, laevigatâ, politâ, eburneâ, aurantio pallidè fasciatâ, columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 34. f. 285.

Hab. South Pacific Ocean.

A small white orange-banded shell, with a surface as hard and shining as polished ivory.

MITRA ARMIGER. *Mitr. testâ elongatâ, subfusiformi, spirâ turrîtâ; anfractibus supernè angulatis, longitudinaliter costatis, costis ad angulum nodosis, infernè evanidis, transversim impresso-striatis; rubidâ, albizonatâ, costis supernè albis; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 35. f. 288.

Hab. — ?

A pretty species, the sculpture of which is of a very decided character.

MITRA CHELONIA. *Mitr. testâ ovatâ, spirâ breviusculâ, acutâ; laevigatâ; nigricante-fuscâ, zonulâ luteâ unicâ, cingulatâ; columellâ triplicatâ, labro supernè sinuato.*

Conch. Icon., *Mitra*, pl. 35. f. 289.

Hab. Island of Burias, Philippines (dredged from sandy mud at the depth of ten fathoms); Cuming.

Belonging to that well-known division of the genus of which the *Mitra ebenus* is the type.

MITRA SCULPTILIS. *Mitr. testâ elongatâ, subcylindrâ, basi paululûm recurvâ, spirâ suturis subimpressis; longitudinaliter crebri-lirâtâ, interstitiis transversim fortiter clathratis; albicante, fuscescente pallidè maculatâ, anfractus ultimi parte inferiori fuscescente basi albicante; columellâ quinqueplicatâ.*

Conch. Icon., *Mitra*, pl. 35. f. 290.

Hab. Island of Ticao, Philippines (found under stones at low water); Cuming.

Distinguished by its very closely latticed sculpture.

MITRA SPICATA. *Mitr. testâ fusiformi, spirâ acuminato-turrîtâ; anfractibus longitudinaliter crebricostatis, supernè acutangulis, costis ad angulum tuberculato-nodosi, anfractu ultimo medio exiliter noduloso, costis ferè obsoletis; pallidè fulvâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 35. f. 291.

Hab. Island of Ticao, Philippines (found on the sands); Cuming.

The upper whorls of this species are longitudinally finely ribbed, but there is very slight indication of ribs upon the lower.

MITRA HEBES. *Mitr. testâ fusiformi, spirâ acuminatâ, lineis profundè impressis transversis et longitudinalibus undique creberrimè decussatâ, albicante, columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 35. f. 292.

Hab. — ?

The entire surface of this species is decussated with narrow deeply-cut lines.

MITRA ANALOGICA. *Mitr. testâ ovato-oblongâ, basi contractâ, sulcatâ; spiræ anfractibus longitudinaliter plicato-costatis, anfractu ultimo lævigato; nigricante fuscâ, zonulâ luted cingulatâ; columellâ triplicatâ.*

Conch. Icon., *Mitra*, pl. 35. f. 293.

Hab. — ?

This species has very much the appearance of a gigantic *Mitra Savignii*, from which it however differs in its proportions.

MITRA BILINEATA. *Mitr. testâ ovatâ, solidiusculâ, spirâ acuminatâ; longitudinaliter subobsoletè plicatâ, lævigatâ, politâ; nigerrimofuscâ, apicem versus albicante, lineis duabus luteis cingulatâ; columellâ quinqueplicatâ.*

Conch. Icon., *Mitra*, pl. 35. f. 294.

Hab. — ?

A hard polished blackish brown shell, encircled with two distant yellow lines.

MITRA RECURVA. *Mitr. testâ fusiformi, basi attenuatâ, subrecurvâ; longitudinaliter granoso-liratâ, transversim impresso-striatâ; rosaceo-purpurascente, fusco minutissimè hic illic punctatâ; columellâ quadriplicatâ; labro incrassato.*

Conch. Icon., *Mitra*, pl. 36. f. 297.

Hab. Island of Capul, Philippines (found under stones at low water); Cuming.

The minute granules with which the surface of this shell is longitudinally sculptured have a semitransparent pearl-like appearance.

MITRA INCARNATA. *Mitr. testâ oblongo-ovatâ, spirâ breviusculâ, transversim elegantissimè crebriliratâ, longitudinaliter angisulcatâ; incarnatâ; columellâ sexplicatâ, aperturâ longiusculâ.*

Conch. Icon., *Mitra*, pl. 36. f. 299.

Hab. Cagayan, province of Misamis, island of Mindanao, Philippines (dredged from sandy mud at the depth of five and twenty fathoms); Cuming.

The sculpture of this delicately tinted shell is very elaborate.

MITRA ARTICULATA. *Mitr. testâ abbreviato-fusiformi, subventricosâ; anfractibus lævibus, longitudinaliter subobsoletè plicatis, medio leviter tuberculatis; pallidè rosaceo-coccineâ, zonulâ albâ fusco articulatâ cinctâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 36. f. 302.

Hab. — ?

I have found no specimen approaching comparison with the one above described, from the collection of Thomas Norris, Esq.

MITRA FESTA. *Mitr. testâ pyramidalis-ovatâ, longitudinaliter obtuso-costatâ, costarum interstitiis transversim cancellatis; eburneâ, anfractu ultimo fasciâ latâ olivaceo-cinereâ, fusco indistinctè punctatâ, cingulatâ; columellâ quadriplicatâ.*

Conch. Icon. *Mitra*, pl. 36. f. 303.

Hab. Puerto Galero, island of Mindoro, Philippines (found on the sands); Cuming.

A solid ivory-white shell, encircled with a dark band, which is concealed in the upper part of the shell by the superposition of the whorls.

MITRA PINGUIS. *Mitr. testâ subobeso-ovatâ, longitudinaliter sub-obliquè noduloso-costatâ, transversim impresso-striatâ, striis creberrimis, anfractus ultimi parte inferiori sulcatâ; albidd, fasciâ unicâ fuscescente cingulatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 36. f. 304.

Hab. Puerto Galero, island of Mindoro, Philippines; Cuming.

The last whorl of this shell exhibits a peculiarity of structure which is worthy of observation; above the brown band it is very closely impressly striated across; below it, it is merely distantly grooved. A difference between the transverse sculpture of the upper and lower portions of the whorls is rarely met with.

MITRA PECULIARIS. *Mitr. testâ elongatâ, anfractibus lævibus, concavis, carinâ unicâ prominente supernè ornatis; albidd, fasciâ latâ luteo-fuscescente cingulatâ; columellâ biplicatâ.*

Conch. Icon., *Mitra*, pl. 36. f. 305.

Hab. Puerto Galero, island of Mindoro, Philippines (found under stones at low water); Cuming.

This species may be easily distinguished by the hollow character which is imparted to the whorls by the very prominent keel round the upper part.

MITRA ROBOREA. *Mitr. testâ pyramidali, spirâ acuminatâ; nigricante-fuscâ, liris albidis angustis undique funiculatâ; columellâ biplicatâ, plicis subindistinctis; aperturâ parvâ.*

Conch. Icon., *Mitra*, pl. 37. f. 306.

Hab. — ?

An interesting dark pyramidal shell, encircled throughout with white cord-like ridges.

MITRA RADIUS. *Mitr. testâ gracili-fusiformi, spirâ acuminatâ, basi contractâ, subelongatâ; anfractibus longitudinaliter concentricè plicato-costatis, interstitiis cancellatis; pallidè carnea, anfractu ultimo fasciâ fuscescente basim versus cingulato; columellâ biplicatâ.*

Conch. Icon., *Mitra*, pl. 37. f. 309.

Hab. Island of Corregidor, Philippines (found among coarse sand at the depth of seven fathoms); Cuming.

A light elegant shell, in which the ribs are of a peculiarly concentric growth.

MITRA GLANDIFORMIS. *Mitr. testâ ovatâ, utrinque attenuatâ, spiræ suturis profundè impressis; longitudinaliter costatâ, costis lævibus, interstitiis profundè clathratis; cinereo-griseo alboque variegatâ, basi albicante; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 37. f. 310.

Hab. — ?

In most examples of this species the white rather predominates.

MITRA CINERACEA. *Mitr. testâ pyramidali-ovatâ, spirâ turritâ,*

basi subrecurvâ; anfractibus supernè angulatis, longitudinaliter costatis, costis ad angulum subnodosis, interstitiis liris parvis transversis cancellatis; cinereo-griseâ, fasciâ albidâ subinterruptâ cingulatâ, basi albidâ; columellâ quadriplicatâ, aperturâ parvâ.

Conch. Icon., *Mitra*, pl. 37. f. 311.

Hab. Cagayan, province of Misamis, island of Mindanao, Philippines (found under stones at low water); Cuming.

A sharply turreted shell, in which the prominent parts of the ribs are white upon a dark ashy ground.

MITRA LIMATA. *Mitr. testâ ovatâ, crassiusculâ, spirâ mediocri; lævigatâ, politâ, transversim undique sulcatâ, sulcis puncturatis; albidâ, fasciâ fuscescente albifloccatâ cingulatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 37. f. 312.

Hab. Island of Bohol, Philippines (found under stones on the reefs at low water); Cuming.

The grooves of this species are more deeply punctured towards the upper part of the whorls.

MITRA EXILIS. *Mitr. testâ elongatâ, basi subrecurvâ, spirâ subobtusâ; liris minutis undique granoso-decussatâ; pallidè violaceo-purpurascente, anfractu ultimo fasciâ latâ saturatiore cingulato, infra albicante; columellâ quadriplicatâ, plicis parvis; labro incrassato.*

Conch. Icon., *Mitra*, pl. 37. f. 313.

Hab. Island of Ticao, Philippines (found under stones at low water); Cuming.

An interesting small species, with a decussated granular surface, like that of a thimble.

MITRA MICA. *Mitr. testâ elongatâ, subcylindraceâ, basim versus contractâ; liris granulosis undique creberrimè decussatâ; fuscâ, zonâ albidâ cingulatâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 37. f. 314.

Hab. Island of Guimaras, Philippines (found in coarse sand at the depth of six fathoms); Cuming.

The colour of this shell is a dull earthy brown.

MITRA ARMILLATA. *Mitr. testâ pyramidalî, spirâ turritâ; anfractibus supernè plano-angulatis, longitudinaliter concentricè costatis, costis angustis, numerosis, ad angulum nodosis, transversim impressis; purpureo-fuscâ, zonulâ lutescente cingulatâ; columellâ quadriplicatâ, aperturâ brevi.*

Conch. Icon., *Mitra*, pl. 37. f. 315.

Hab. Island of Annaa, Pacific Ocean (found on the reefs); Cuming.

A prettily sculptured species, in which the ribs are disposed somewhat concentrically.

MITRA TORNATELLOIDES. *Mitr. testâ rotundato-ovatâ, spirâ brevi, obtusâ; transversim undique sulcatâ, sulcis subindistinctè punctu-*

ratis; sanguineo-fuscescente, zonula transversa strigisque longitudinalibus undatis albis vividè notata; columella quadriplicata.

Conch. Icon., *Mitra*, pl. 38. f. 316.

Hab. Philippine Islands; Cuming.

The general aspect of this shell is very like that of a well-known species of *Tornatella*.

MITRA GAUSAPATA. *Mitr. testâ ovata, spirâ subacuminata; anfractibus supernè plano-compressis, tuberculato-costatis, transversim undique liratis; nigerrimo-fusca, anfractuum area superâ lutea; columella triplicata.*

Conch. Icon., *Mitra*, pl. 38. f. 317.

Hab. Gallapagos Islands (dredged from the depth of about ten fathoms); Cuming.

The whorls are characterized by a peculiar narrow depression round the upper part, beneath which they are for a short distance tubercularly ribbed.

MITRA AMANDA. *Mitr. testâ subpyramidalis, spirâ acuto-turrita; anfractibus longitudinaliter crebricostatis, transversim impressis; fasciis angustis rubido-fuscis albisque undique cingulata; columella quadriplicata.*

Conch. Icon., *Mitra*, pl. 38. f. 318.

Hab. Islands of Burias and Negros, Philippines (found among coral sand at the depth of four fathoms); Cuming.

Encircled throughout with narrow white and reddish brown bands.

MITRA CROCEA. *Mitr. testâ ovata, spiræ suturis impressis; anfractibus supernè plano-angulatis; longitudinaliter crebricostatis, transversim basim versus sulcatis; pallidè crocea, aperturæ fauce aurantio tincta; columella quadriplicata.*

Conch. Icon., *Mitra*, pl. 38. f. 320.

Hab. Island of Capul, Philippines (found under stones at low water); Cuming.

Of a beautiful clear yellow colour, with orange mouth.

MITRA ROSACEA. *Mitr. testâ ovata, spirâ breviusculâ; liris granatis undique cingulata; nived, maculis grandibus pallidè rosaceis bifasciatim ornata; columella quinqueplicata; aperturâ oblongo-ovata; labro crenulato.*

Conch. Icon., *Mitra*, pl. 38. f. 321.

Hab. Island of Corrigidor, Philippines (found among coral sand at the depth of ten fathoms); Cuming.

An extremely delicate semitransparent pink-stained white shell.

MITRA MÆSTA. *Mitr. testâ oblongo-ovata, transversim sulcata, lævigata; fuscescente, anfractuum parte superiori pallidè lutea; columella quadriplicata.*

Conch. Icon., *Mitra*, pl. 38. f. 323.

Hab. Island of Corrigidor, Philippines (dredged among coral sand at the depth of ten fathoms); Cuming.

The columella and mouth of this species are brightly enamelled.

MITRA ÆTHIOPS. *Mitr. testâ ovatâ, crassâ, spirâ acutâ, liris parvis transversis et longitudinalibus, concentricis, undique decussatâ; nigerrimâ, vel olivaceo-nigrâ; columellâ planatâ, quadriplicatâ, callositate supernè munitâ; labro planato, intus denticulato, supernè sinuato.*

Conch. Icon., *Mitra*, pl. 38. f. 324.

Hab. Islands of Ticao and Luzon, Philippine Islands (found under stones at low water); Cuming.

Belonging to that interesting group of which the *Mitra Ziervogeliana* and *Woldemarii* form part.

MITRA ZELOTYPÆ. *Mitr. testâ ovatâ, anfractibus supernè rotundatis, longitudinaliter costatis, transversim fortiter cancellato-liratis; luteo alboque undique fasciatâ; columellâ quadriplicatâ, aperturæ fauce violascente.*

Conch. Icon., *Mitra*, pl. 38. f. 325.

Hab. — ?

A very distinct species, from the collection of H. Cuming, Esq., concerning which he possesses no information as to its locality.

MITRA INFAUSTA. *Mitr. testâ ovatâ, solidiusculâ, longitudinaliter subundato-costatâ, transversim impresso-striatâ; incarnato-stramineâ, lineis impressis rubido-fusco hic illic exiliter tinctis; columellâ triplicatâ.*

Conch. Icon., *Mitra*, pl. 39. f. 326.

Hab. Island of Ticao, Philippines (found under stones at low water); Cuming.

The transverse impressed striæ are chiefly stained with reddish brown where they pass over the ribs.

MITRA GRAIA. *Mitr. testâ ovatâ, solidâ, spirâ brevi, acuminatâ; levigatâ, albâ, opacâ, epidermide luteâ indutâ; columellâ triplicatâ.*

Conch. Icon., *Mitra*, pl. 39. f. 327.

Hab. Island of Paros, Grecian Archipelago; — Miller, R.N.

A stout solid shell, of a peculiar opaque marble-white, covered with a yellow epidermis.

MITRA CANDIDA. *Mitr. testâ ovatâ, subfusiformi, transversim crebriliratâ, lirarum interstitiis longitudinaliter subtilissimè striatis; candidâ; columellâ triplicatâ.*

Conch. Icon., *Mitra*, pl. 39. f. 328.

Hab. La Guayra, South America.

A white closely-ridged species, in the collection of His Majesty the king of Denmark, by whose permission it has been forwarded to me for illustration.

MITRA RUSTICA. *Mitr. testâ oblongo-ovatâ, spirâ turratâ; anfractibus supernè angulatis, longitudinaliter costatis, costis subdistans, ad angulum muricato-tuberculatis, transversim puncturatis; albidâ, infernè cinereâ; columellâ quadriplicatâ.*

Conch. Icon., *Mitra*, pl. 39. f. 329.

Hab. — ?

The upper edge of the ash-colour is slightly marked between the ribs with one or two brown dots.

MITRA CORALLINA. *Mitr. testá subfusiformi, politá, basi subre-curvá; anfractibus transversim obsoletè striatis, longitudinaliter plicato-costatis; electro- vel corallio-rubrá, costis albicantibus; columellá quadriplicatá.*

Conch. Icon., *Mitra*, pl. 39. f. 330 *a* and *b*.

Hab. Island of Masbate, Philippines (found on the sands); Cuming. This is a beautiful species, some examples having the appearance of bright amber, whilst others resemble red coral.

MITRA LUBENS. *Mitr. testá elongatá, subfusiformi, basi contractá, spirá turritá; anfractibus supernè angulatis, liris parvis longitudinalibus et transversis creberrimè clathratis; albidd, apice basique rosaceis; columellá quadriplicatá.*

Conch. Icon., *Mitra*, pl. 39. f. 331.

Hab. Island of Ticao, Philippines (found under stones at low water); Cuming.

The ridges of this very delicate and pretty shell are slightly nodulous, and prickly on the angle.

MITRA PATULA. *Mitr. testá ovatá, tenuiculá, ventricosiusculá, lævigatá; cineré, fusco hic illic variegatá et nebulatá; columellá quadriplicatá; aperturá amplá; labro tenui, supernè sinuato.*

Conch. Icon., *Mitra*, pl. 39. f. 333.

Hab. —?

Very distinct from any form of the genus I have met with.

MITRA ALVEOLUS. *Mitr. testá abbreviato-ovatá, spiræ suturis profundè impressis; longitudinaliter subtiliter plicato-costatá, basi transversim sulcatá; anfractibus infernè aterrimis, supernè albis, nigro tessellatis; columellá quadriplicatá.*

Conch. Icon., *Mitra*, pl. 39. f. 334.

Hab. —?

A characteristic tessellated species, from the collection of Thomas Norris, Esq.

May 27, 1845.

William Yarrell, Esq., Vice-President, in the Chair.

Mr. Gould exhibited to the Meeting four new species of Birds from Australia, which he characterized as follows:—

ARDEA (HERODIAS) PICATA. *Ard. capite superiore, occipite, plumis occipitalibus, corpore superiore, caudâ, alisque cæruleo-nigris; mento, nuchâ, pectore, et quibusdam plumis a pectore dependentibus albis.*

Upper part of the head, occiput, occipital plumes, the whole of the plumage of the body, wings and tail bluish slaty black; chin, neck, chest and some of the lanceolate feathers dependent therefrom white; some few of the lanceolate feathers on the neck and breast have one web white and the other web bluish slaty black; the remainder of these lanceolate feathers are the same colour as the body; irides yellow; bill, legs and feet greenish yellow. In young specimens the whole of the under surface is white.

Total length, 17 inches; bill, $3\frac{1}{4}$; wing, 10; tail, $3\frac{1}{2}$; tarsi, $3\frac{1}{4}$.

Hab. Port Essington.

COLLURICINCLA PARVULA. *Col. corpore superiore, caudâ, alisque olivaceo-brunneis; subtus pallidè cervinâ; medio plumarum gulæ et pectoris vittâ latâ brunneâ ornato.*

All the upper surface, wings and tail olive-brown; a faint line over the eye and the chin white; all the under surface pale buff, the feathers of the throat and breast with a broad stripe of brown down the centre; irides dark brownish red; bill blackish grey; tarsi bluish grey.

Total length, 7 inches; bill, 1; wing, 4; tail, $3\frac{1}{4}$; tarsi, 1.

Hab. Port Essington.

This is the smallest species of the genus yet discovered.

MELITHREPTUS MELANOCEPHALUS. *Mel. toto capite, gulâ, et maculâ semilunari apud latera pectoris saturatè nigris; corpore superne flavo-olivaceo pectore albo.*

The whole of the head and throat, and a semilunar mark on either side of the chest, deep glossy black; all the upper surface yellowish olive, becoming brighter on the rump; wings and tail brownish grey, with lighter margins; breast white; remainder of the under surface greyish white; bill black; irides reddish brown; feet brown; bare skin over the eye pearly white, slightly tinged with green.

Total length, $5\frac{1}{4}$ inches; bill, $\frac{9}{16}$; wing, 3; tail, $2\frac{5}{8}$; tarsi, $\frac{3}{4}$.

Hab. Van Diemen's Land.

HEMIPODIUS SCINTILLANS. *Hem. corpore superne pallidè castaneo,*

singulis plumis fasciis latis brunneo-nigris ornatis; marginibus plumarum cinereis; intra margines lineis angustis nigris et albis ornatis; tectricibus alarum et tertiariis pallidè castaneo-rubris balteis irregularibus ziczac fasciatis; interspatiis balteorum cinereo-albis; mento genisque albis maculâ semilunari brunnea ad apicem singulæ plumæ; pectore et corpore inferiore pallidè cervino-albis; plumis pectoris ordine macularum saturatè grisearum ad marginem ornatis.

Upper surface light chestnut-red, all the feathers crossed by broad bars of brownish black and margined with grey, within which are two narrow lines of black and white; wing-coverts and tertiaries light chestnut-red, crossed by irregular zigzag bars of black, the interspaces margined externally with greyish white; chin and sides of the face white, with a narrow crescent-shaped mark of brown at the tip of each feather; sides of the breast chestnut, each feather tipped with white, within which is an indistinct mark of deep black; chest and under surface pale buffy white, the feathers of the chest with a row of dark grey spots on each margin, giving that part a speckled appearance; primaries brown, narrowly edged with white; irides reddish orange; feet yellow; bill horn-colour.

Total length, male, 5 inches; bill, $\frac{11}{16}$; wing, $3\frac{1}{4}$; tarsi, $\frac{11}{16}$. Female, 6 inches; bill, $\frac{3}{4}$; wing, $3\frac{1}{2}$; tarsi, $\frac{3}{4}$.

Hab. Houtmann's Abrolhos, off the western coast of Australia.

Remark.—Like the rest of the genus, the male is much inferior in size to the female. The species is very nearly allied to, but much smaller than, *Hemipodius varius*.

“Description of twenty-two new species of Land-Shells, belonging to the collection of Mr. H. Cuming,” by Dr. L. Pfeiffer:—

1. *HELIX GRUNERI*, Pfr. *Hel. testâ umbilicatâ, depressâ, supernè planiusculâ, minutissimè punctato-striatâ, rufâ; anfractibus $5\frac{1}{2}$ sensim crescentibus, planiusculis, ultimo rotundato, anticè vix deflexo; umbilico angusto, pervio; aperturâ subverticali, depressâ, latè lunari; peristomate incrassato, reflexo, marginibus collo tenui, supernè dentem arcuatum, validum, callosum formante junctis.*

Diam. 38, alt. 18 mill.

Locality unknown. A beautiful shell, next allied to *H. unguicula*, De Férussac, differing by the strong and arcuated tooth on the body of the penultimate whorl.

2. *HELIX OKENIANA*, Pfr. *Hel. testâ imperforatâ, orbiculari, utrinque convexiusculâ, obtusè carinatâ, undique regulariter granulatâ, supernè fuscâ, basi pallidâ; anfractibus $5\frac{1}{2}$ rotundato-planatis, ultimo anticè deflexo, basi profundè biscrobiculato; aperturâ subhorizontali, ellipticâ, coarctatâ; peristomate carneo-fusco, incrassato, marginibus collo junctis, supero expanso, basali reflexo, tridentato; dentibus æquidistantibus, 2 minoribus prope columellam, tertio majore supernè sulcato.*

Diam. 37, alt. 17 mill.

Found on the island of Jamaica at Savannah la Mar, by M. Atta-

nasio. To be distinguished from *H. lucerna*, Müll., by having three teeth at the basal margin of the aperture.

3. *HELIX NEOGRANATENSIS*, Pfr. *Hel. testâ imperforatâ, depressâ, carinatâ, tenui, undique minutè granulosâ, saturatè rufâ; spirâ vix elevatâ; anfractibus 4½ planiusculis, ultimo basi convexo, anticè deflexo, constricto; aperturâ perobliquâ, lunato-rotundatâ; peristomate carneo, simplice, expanso, reflexiusculo, marginibus callo tenui junctis, basali obsoletissimè unidentato, columellari brevi, dilatato, adpresso.*

Diam. 34, alt. 15 mill. ♂

Found in the mountain Quendeu at New Granada.

4. *HELIX CINERASCENS*, Pfr. *Hel. testâ imperforatâ, globoso-turbinatâ, tenuiusculâ, stramineâ, fasciis 2 latis et areâ basali nigricantibus ornatâ, epidermide tenui, hydrophand, cinereâ, obductâ; spirâ breviter turbinatâ, apice obtusâ; anfractibus 5½ convexiusculis, ultimo basi inflato; columellâ subarcuatâ, carneo-fusâ; aperturâ rotundato-lunari, intus albâ; peristomate breviter expanso, subincrassato, castaneo-limbato.*

Diam. 41, alt. 37 mill.

Found by H. Cuming, Esq. at the island of Masbate.

5. *HELIX TURBO*, Pfr. *Hel. testâ imperforatâ, turbinatâ, solidiusculâ, distinctè striatâ, sub epidermide tenuissimâ, deciduâ, flavescente albâ, medio rufo-fasciatâ; spirâ brevi, conoïdè, obtusâ; anfractibus 5 convexis, ultimo obsoletè angulato, basi vix convexo; columellâ strictâ, dilatâ, albidâ; aperturâ irregulariter lunari; peristomate expanso, margine columellari dilatato, reflexo, rimam formante, cum basali angulatim juncto.*

Diam. 43, alt. 35 mill.

Hab. Isle of Mindoro.

6. *HELIX UNICOLOR*, Pfr. *Hel. testâ umbilicatâ, depressâ, acutè carinatâ, tenui, fusâ, supernè subtiliter striatâ, subtùs lineis nonnullis spiralibus elevatis munitâ; spirâ depresso-conoïdè; anfractibus 5 planiusculis, sensim accrescentibus, ultimo anticè non descendente, basi convexo, ad umbilicum angustum abreptè angulato; aperturâ rhomboidè; peristomate saturatè fusco, marginibus callo tenuissimo junctis, supero dilatato, expanso, basali ascendente, stricto, columellari brevi, dilatato, umbilicum semi-occultante, cum basali angulatim juncto.*

Diam. 32, alt. 16 mill.

Locality unknown. Constantly distinguished from *H. Xystera*, Valenc., by its narrow umbilicus, elevated spire, and the number of its whorls.

7. *HELIX OMPHALODES*, Pfr. *Hel. testâ latè umbilicatâ, depressâ, solidâ, leviter striatâ, sub epidermide flavescente, deciduâ albâ, ad peripheriam et suturam rufo-cingulatâ; spirâ vix convexâ; anfractibus 5 planiusculis, ultimo anticè vix descendente, basi paulò convexiore, circa umbilicum magnum, spiralem, intus castaneum*

subcompresso; aperturá perobliquá, lunato-ovali; peristomate breviter reflexo, fusco, marginibus conniventibus.

Diam. 41, alt. 16 mill.

Locality unknown.

8. *HELIX INVOLUTA*, Pfr. *Hel. testá imperforatá, depressá, supernè convexiusculá, basi planiusculá, medio impressá, tenuissimá, striatulá, nitidissimá, corned, fusco-radiatá; anfractibus planè involutis, ultimo anticè obliquè depresso; aperturá depressá, lunato-oblongá; peristomate simplice, recto, marginibus utrinque centro testæ insertis, dextro antrorsum arcuato-dilatato.*

Diam. 18, alt. $7\frac{1}{2}$ mill.

Found on the mountains of Quendeu in New Granada.

9. *HELIX CAMPANULA*, Pfr. *Hel. testá umbilicatá, globosá, solidá, subtiliter et regulariter obliquè striatá, castanè; spirá semiglobosá, apice obtuso, pallido; anfractibus $4\frac{1}{2}$ convexiusculis, ultimo antecedente vix latiore, anticè vix descendente, medio pallidè cingulato; aperturá perobliquá, lunato-ovali, intus livscente; peristomate fusco, subincrassato, breviter reflexo, marginibus callo junctis, basali introrsum obsolete albo-unidentato, extrorsum dilatato, umbilicum angustum, profundum semi-occultante.*

Diam. 27, alt. 21 mill.

Locality unknown.

10. *HELIX LABIATA*, Pfr. *Hel. testá apertè perforatá, depressá, tenui, striatulá, supernè lineis concentricis obsolete decussatá, basi lævigatá, nitidá, fulvá; spirá planiusculá; anfractibus 6 subplanulatis, ultimo dilatato, depresso; aperturá latè lunari; peristomate acuto, intus calloso-labiato, margine supero antrorsum rotundato, basali planè arcuato, columellari vix reflexiusculá.*

Diam. 40, alt. 20 mill.

Locality unknown. Distinguished from *H. citrina*, Linn., by the concentric striæ, the number of its whorls, and the callus within the aperture.

11. *HELIX HANLEYI*, Pfr. *Hel. testá imperforatá, depressá, lenticulari, acutè carinatá, tenui, subtilissimè decussatá, nitidá, sulphureá, ad suturam et carinam albo-fasciatá; spiræ parùm elevatá; anfractibus 4 subplanulatis, ultimo anticè angulatim deflexo, constricto; aperturá parvulá, horizontali, oblongá; peristomate simplice, undique expanso et reflexo, marginibus ferè contiguís.*

Diam. 19, alt. 9 mill.

- β. *Testá supernè nigricanti-purpureá, ad aperturam albo-fasciatá, basi albidá, infra carinam castaneo-fasciatá.*

Found by Mr. Cuming at Sinaít, island of Luzon. This fine shell is not unlike some varieties of the *Hel. bifasciata*, Lea, but constantly to be distinguished from that species by the angular deflection of its last whorl and by the shape of its small aperture.

12. *HELIX AMENA*, Pfr. *Hel. testá imperforatá, globoso-depressá, lineis longitudinalibus et spiralibus sub lente decussatá, albidá,*

fasciâ unicâ spadiceâ supra peripheriam et lined rufâ, suturali ornatâ; anfractibus 4 vix convexiusculis, ultimo obsolete angulato, antice deflexo, basi parum convexâ; aperturâ transversâ lunari-oblongâ, intus concolore; peristomate simplice, marginibus subparallelis, dextro expanso, basali antice reflexo, ad columellam dilatato, adpresse reflexo.

Diam. 18, alt. $10\frac{1}{2}$ mill.

Found by Mr. Cuming at Catanauan, island of Luzon. This species is likewise similar to several unkeeled varieties of *Hel. bifasciata*, but by examining a large number of specimens of this and the other ones, I found the above characters to be invariably constant.

13. *HELIX METCALFII*, Pfr. *Hel. testâ latè umbilicatâ, depressâ, discoideâ, acutè carinatâ, striatulâ, pullidè vel rufescenti-corneâ, utriusque juxta carinam albam castaneo-unifasciatâ; spirâ vix elevatâ; anfractibus 6 vix convexiusculis, ultimo antice vix descendente; aperturâ subtriangulâri; peristomate simplice, margine supero antrorsum arcuatim dilatato, depresso, basali ad columellam leviter arcuato.*

Diam. 21, alt. 7 mill.

β . *Minor, flavida, lineis angustis nigricanti-rufis juxta carinam.*
Diam. 17, alt. $5\frac{1}{2}$ mill.

γ . *Unicolor, fusco-cornea.* Diam. 15, alt. 5 mill.

Found by Mr. Cuming on the Philippine Islands and at Sibonga, island of Zebu; β . at Tanhay, island of Negros; γ . on the island of Siquijor. Distinguished from all species belonging to the same group by its flattened shape.

14. *HELIX TRISTIS*, Pfr. *Hel. testâ imperforatâ, ovato-globosâ, tenui, striatâ, lineis concentricis obsolete decussatâ, olivaceo-fuscâ, rufo 5-fasciatâ; spirâ parvulâ, conoidè; anfractibus 4 convexiusculis, ultimo inflato; aperturâ lunato-ovalî, intus nitidâ; peristomate simplice, recto, margine columellari dilatato, reflexo, adpresso.*

Diam. 21, alt. 18 mill.

This species is said to be found in Sicily, but there may be a mistake.

15. *HELIX ADAMSII*, Pfr. *Hel. testâ imperforatâ, orbiculato-convexiusculâ, leviter striatulâ, nitidissimâ, fulvescenti-luteâ, unicolore vel fasciis saturatè fulvis et castaneis multimodè ornatâ et radiatâ; spirâ convexiusculâ, obtusâ; anfractibus $3\frac{1}{2}$ -4 vix convexiusculis, ultimo basi planiore; aperturâ rotundato-lunari; peristomate simplice, acuto, margine columellari subobliquo, dilatato, albo.*

Diam. 12, alt. $6\frac{1}{2}$ mill.

Hab. Pitcairn's Island and Opara. Collected by Mr. Cuming.

The late patriarch of the island pointed out this shell to Mr. Cuming, and at his request I have the pleasure to dedicate it to the venerable man's memory.

16. *HELIX BAHAMENSIS*, Pfr. *Hel. testâ angustè umbilicatâ, de-*

pressâ, tenui, cornedâ, costulato-striatâ; spirâ brevi, convexiusculâ; anfractibus 4½ vix convexiusculis, ultimo anticè deflexo; aperturâ subhorizontali, transversè ovali; peristomate simplice, tenui, marginibus approximatis, supero breviter expanso, basali reflexo, intus dente triangulari, valido munito, columellari dilatato, reflexo, umbilicum angustum, pervium semitegente.

Diam. 17, alt. 7½ mill.

Hab. Bahamas.

17. *HELIX BERMUDENSIS*, Pfr. *Hel. testâ umbilicatâ, lenticulari, tenuiusculâ, carinatâ, leviter ruguloso-striatâ, pallidè fulvescente, cingulo castaneâ supra et latiore infra carinam ornatâ; anfractibus 7 vix convexiusculis, lentè accrescentibus; umbilico angusto, pervio; aperturâ subtrapezidâ; peristomate simplice, recto, margine columellari verticali, brevi, reflexiusculo, cum basali angulum rectum formante.*

Diam. 19, alt. 10½ mill.

Hab. Bermuda.

18. *HELIX PENNANTIANA*, Pfr. *Hel. testâ angustè umbilicatâ, orbiculato-conoidèâ, acutè carinatâ, tenui, striatulâ, irregulariter et leviter mulleatâ, unicolore carnea, apice rufescente; anfractibus 5½ vix convexiusculis, ultimo anticè vix descendente, basi planiusculo; aperturâ perobliquâ, angulato-lunari, intus albâ; peristomate roseo, latè expanso, margine basali reflexo, columellari brevi, strictiusculo, dilatato, umbilicum ferè tegente.*

Diam. 37, alt. 20 mill.

Hab. Philippine Islands?

Nearly allied to *H. labium*, Fér., from which it may easily be distinguished by its sharp keel and sculpture.

19. *BULIMUS LEOPARDUS*, Pfr. *Bul. testâ imperforatâ, ovatâ, solidiusculâ, longitudinaliter confertim costulato-striatâ, fulvâ, strigis et maculis albidis epidermidis hydrophanæ eleganter variegatâ; spirâ brevi, conoidèâ, sursum pallescente; anfractibus 5 convexis, rapidè accrescentibus, ultimo spiram superante; columellâ elongatâ, introrsum acutâ; aperturâ amplissimâ, rotundato-ovali, intus albâ; peristomate latè expanso, reflexiusculo, castaneo-limbato.*

Long. 47, diam. 30 mill.

Hab. Isle of Mindanao, Philippine Islands.

20. *BULIMUS EGREGIUS*, Pfr. *Bul. testâ perforatâ, fusiformi, solidulâ, striis longitudinalibus confertis et lineis spiralibus remotioribus subdecussatâ, nitidâ, flammis castaneis pellucidis et fulvis, opacis egregiè pictâ; anfractibus 6 vix convexiusculis, ultimo spiram turritam æquante, basi compresso; columellâ subangulato-arcuatâ; aperturâ oblongâ, utrinque acutâ, intus lividâ; peristomate vividè rubro, latè expanso, breviter reflexo, basi canaliculato, marginibus callo tenui junctis.*

Long. 41, diam. 15 mill.

Locality unknown. Distinguished from *B. goniostoma*, Sow., by its size, colouring and widely expanded peristome.

21. *BULIMUS CANALICULATUS*, Pfr. *Bul. testâ umbilicatâ, obliquè fusiformi, ruguloso-striatâ, nitidâ, albido, carneo et spadiceo marmoratâ; spirâ turrato-conicâ, acutâ; anfractibus 7 vix convexiusculis, ultimo spirâ vix longiore, basi valdè constricto-carinato; columellâ arcuatim antrorsum elongatâ; aperturâ ovali, basi canaliculatâ; peristomate simplice, tenui, margine dextro vix expansiusculo, columellari dilatato, reflexo.*

Long. 37, diam. 14 mill.

Hab. Bolivia.

22. *BULIMUS CASTANEUS*, Pfr. *Bul. testâ vix perforatâ, ovato-acuminatâ, solidiusculâ, longitudinaliter confertim striatâ, lineis spiralibus distantioribus decussatâ, unicolore castanè; spirâ brevi, conicâ, acutiusculâ; anfractibus 4½ vix convexiusculis, ultimo inflato, 2-3 longitudinis subæquante; columellâ tenui, subsimplice; aperturâ ovali, intus saturatè fuscâ, nitidâ; peristomate vix incrassato, brevissimè reflexo, marginibus callo tenui junctis, columellari vix dilatato.*

Long. 70, diam. 39 mill.

Hab. Nova Granada; Vegas on the river Quendeu.

Nearly allied to *Bul. Gibbonius*, Lea; distinguished by its transverse striae, closed umbilicus, peristome, etc.

"Description of a new species of *Amphipeplea*," by Dr. L. Pfeiffer.

The shell I am describing belongs to the genus of freshwater shells distinguished by Nilsson from *Limnæus* under the name of *Amphipeplea*, and sufficiently characterized by the shape and habits of its animal, perfectly agreeing with our new species, according to Mr. Cuming's information, who first discovered it, and by whose name I am pleased to illustrate the species.

AMPHIPEPLEA CUMINGIANA, Pfr. *Amph. testâ ovato-globosâ, tenuissimâ, longitudinaliter confertim striatâ, nitidissimâ, pellucidâ, pallidè corneâ; spirâ brevissimâ, mucronulatâ, callo tenui semi-obtectâ; columellâ nullâ; margine anfractuum interno arcuato, appendice membranaceo (deciduo) munito; aperturâ amplissimâ, semi-ovalî, margine supero breviter arcuato, patente.*

Long. 30, diam. 22 mill.; apertura 26 mill. longa.

Found at Naga, province of South Camerines, island of Luzon, by H. Cuming, Esq.

Mr. Thompson of Belfast read a paper to prove that the *Larus capistratus*, Temm., is not a distinct species from *L. ridibundus*, and exhibited a series of specimens of both forms in different states of plumage obtained in the neighbourhood of Belfast. The differences between these supposed species are—

1st. In size; but a female specimen of *L. ridibundus*, with black hood, bill and legs arterial blood-red, was exhibited, agreeing in the size of body, tarsi, &c. with *L. capistratus*.

2nd. The colour of the tarsi and toes attributed to *L. capistratus*, and as distinguishing it from *L. ridibundus*, is a mere transition shade,

through which all individuals of the latter pass before the arterial blood-red hue is attained.

3rd. The disposition of black or brown on the head, its taking the form of a mask, as in *L. capistratus*, or as a hood, as in *L. ridibundus*, is either transitional or accidental*, and the shade of colour commonly varies from the "broccoli-brown" of the former to the deeper tint of the ordinary *L. ridibundus*.

A specimen of the *L. capistratus*, purchased at the sale of Bullock's collection by Dr. Leach, and believed to have been one of the first birds seen by Temminck, to which he gave this name, is now in the British Museum. By the kindness of Mr. George R. Gray, I made a critical comparison of this bird with the specimens now exhibited, and, excepting in the smaller size of the toes and webs of feet, there was no difference between it and some of them; and from the adult female, *L. ridibundus*, in full summer plumage it differed in the most trivial manner only.

* I have known it to be both transitional and accidental, i. e. for birds to exhibit the mask the *first* summer of their attaining adult plumage, and others the hood in their first assumption of the black hood.

June 10, 1845.

Rev. John Barlow in the Chair.

"Descriptions of twenty-two new species of *Helix*, from the collections of Miss Saul, — Walton, Esq., and H. Cuming, Esq.," by Dr. Louis Pfeiffer:—

1. *HELIX PACHYSTYLA*, Pfr. *Hel. testâ imperforatâ, globosâ, solidâ, ponderosâ, striatâ, lineis concentricis decussatâ, albâ, epidermide sordide viridi, nigricanti-radiatâ indutâ; spirâ brevi; anfractibus 5 celeriter accrescentibus, ultimo globoso, anticè breviter deflexo; columellâ obliquâ, dilatatâ, callosâ, albâ, obsoletè et latè unidentatâ; aperturâ irregulariter lunato-rotundatâ, intus lacted; peristomate recto, intus subincrassato, margine basali reflexiusculo.*

Diam. 43, alt. 37 mill.

Locality, New Zealand.

Similar to *H. pomum*, Pfr., from which it may be distinguished by its transverse striæ, and by being quite imperforate. (Coll. Metcalfe.)

2. *HELIX EURYOMPHALA*, Pfr. *Hel. testâ umbilicatâ, orbiculato-convexâ, tenui, pellucidâ, virenti-corned, supernè regulariter costulato-striatâ, lineis concentricis obsoletè decussatâ, basi remotius striatâ, nitidissimâ; spirâ parùm elevatâ, obtusâ; anfractibus 6 convexiusculis, ultimo dilatato, subdepresso, anticè non descendente; umbilico magno, pervio; aperturâ obliquè lunato-ovali, intus margaritaced; peristomate recto, simplice, marginibus conniventibus.*

Diam. 37, alt. 17 mill.

Locality, Cuba.

To be distinguished from *H. laxata*, Fér., by the number of its whorls, forming a more elevated spire, by the last whorl not deflected and less dilated, &c. (Coll. Cuming.)

3. *HELIX MICANS*, Pfr. *Hel. testâ imperforatâ, globosâ, tenui, fragili, striatula, lineis confertissimis obsoletè decussatâ, diaphanâ, albidâ; spirâ parvulâ; anfractibus 4 planiusculis, rapidè accrescentibus, ultimo inflato; columellâ tenui, intrante, excavatâ; aperturâ rotundato-lunari; peristomate simplice, recto, margine dextro antrorsum subarcuato.*

Diam. 28, alt. 19 mill.

Found at S. Juan, province of Cagayan, island of Luzon, on bushes, by H. Cuming, Esq.

This shell might easily be taken for an enormous species of *Vitrina*.

4. *HELIX FORBESII*, Pfr. *Hel. testâ umbilicatâ, discoided, tenui, obliquè confertim striatâ, unicolore rufâ; spirâ planiusculâ; anfractibus 5 convexis, ultimo basi convexiore, anticè vix descen-*

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dente, obtusè angulato, supernè obsolete impresso; umbilico magno, spirali; aperturà perobliquà, rotundato-lunari; peristomate simplice, acuto, albido-carneo, intus subincrassato, margine supero lute expanso, basali reflexo, columellari subdilatato.

Diam. 41, alt. 14 mill.

Locality unknown. (Coll. Walton.)

5. *HELIX RUBICUNDA*, Pfr. *Hel. testà perforatà, depressè turbinatà, rugoso-striatà, obsolete et minutissimè granulatà, subepidermide corneà, deciduà rubicundà; anfractibus 5½ subplanulatis, ultimo medio obtusè angulato, basi convexiore; aperturà obliquè lunari; peristomate simplice, recto, margine dextro antrorsum subdilatato, columellari dilatato, reflexo, perforationem semi-occultante.*

Diam. 27, alt. 15 mill.

Locality unknown. (Coll. Walton.)

6. *HELIX SAULIÆ*, Pfr. *Hel. testà umbilicatà, globoso-depressà, solidiusculà, obliquè striatà, fulvidà, medio fascià unicà albd, utrinque rufo-marginatà ornatà; spirà brevi, obtusà; anfractibus 4 vix convexiusculis, ultimo basi subplanato, anticè subito deflexo, circa umbilicum angustum, pervium rufo; aperturà perobliquà, lunato-ovali; peristomate breviter reflexo, marginibus conniventibus, callo tenui junctis, columellari castaneo, valdè dilatato, umbilicum ferè occultante.*

Diam. 32, alt. 20 mill.

Locality unknown. (Coll. Cuming. et Saul.)

7. *HELIX RHOMBOSTOMA*, Pfr. *Hel. testà imperforatà, trochiformi, tenuiusculà, obliquè striatula, lineis confertissimis concentricis subdecussatà, nitidulà, albido-fulvescente, fasciis castaneis plurimis ornatà; spirà brevi, conicà, apice acutà; anfractibus 5 planiusculis, ultimò acutè carinato, basi vix convexo, anticè parùm deflexo, à latere subcompresso; aperturà rhombè; peristomate violaceo, margine supero expanso, supernè impresso, columellari stricto, dilatato, plano, adpresso.*

Diam. 28, alt. 15 mill.

Locality unknown. (Coll. Saul. et Metcalf.)

8. *HELIX PLANISSIMA*, Pfr. *Hel. testà umbilicatà, depressissimà, lenticulari, tenui, utrinque obliquè rugoso-costatà, albida, subtùs interdum corneo-fasciatà; anfractibus 5½ convexiusculis, acutè carinatis (carinà compressà, prominente, serratà), ultimo anticè vix descendente, basi convexiore, circa umbilicum mediocrem, spiralem subangulato; aperturà depressà, angulato-lunari; peristomate simplice, margine basali planè arcuato, reflexo.*

Diam. 11½, alt. 4½ mill.

Locality unknown. (Coll. Walton.)

Similar to *H. amanda*, Rossm., from which it may be distinguished by its thin and flattened shell, its umbilicus, and the peristome not thickened.

9. *HELIX FILICOSTA*, Pfr. *Hel. testâ subobtectè perforatâ, depresso-globosâ, regulariter costatâ (costis filiformibus), tenuiusculâ, carneo-albidâ, lineis fuscis obsoletis cinctâ; anfractibus $4\frac{1}{2}$ convexis, ultimo antice deflexo; aperturâ lunato-orbiculari; peristomate acuto, intus subincrassato, labiato, marginibus conniventibus, callo introrsum diffuso roseo junctis, dextro vix expanso, columellari dilatato, reflexo, roseo.*

Diam. 14, alt. 9 mill.

Locality unknown. (Coll. Saul.)

10. *HELIX RETIFERA*, Pfr. *Hel. testâ umbilicatâ, obtusè trochiformi, striato-plicatulâ, lineis nonnullis concentricis elevatis reticulatâ, carinatâ, diaphanâ, pallidè cornèâ; spirâ elevatâ, obtusâ; anfractibus $5\frac{1}{2}$ planiusculis, ultimo basi subplanulato, striato; umbilico mediocri, pervio; aperturâ depressâ, securiformi; peristomate simplice, acuto, margine supero brevi, basali planè arcuato.*

Diam. 7, alt. 4 mill.

Locality unknown. (Coll. Metcalf.)

11. *BULIMUS GRAYANUS*, Pfr. *Bul. testâ gracili, turritâ, solidulâ, longitudinaliter subtilissimè striatâ et lineis impressis spiralibus subdecussatâ, cinnamomeâ; spirâ turritâ, apice valde attenuatâ; anfractibus 6 vix convexiusculis, ultimo $\frac{2}{3}$ longitudinis subæquante, antice deflexo, soluto, dorso et basi carinato, lateribus scrobiculato; aperturâ angustâ, oblongâ, basi canaliculatâ; peristomate simplice, undique expanso, dentibus 7 marginem non attingentibus armato; 3 in latere dextro, 4 in sinistro, summo tuberculiformi, secundo valido, lamelliformi.*

Long. 35, diam. 11 mill.

Locality, Brazils.

Nearly allied to *Bul. odontostoma*, Sow., but quite distinct from the two varieties figured by Férussac. (Coll. Cuming.)

12. *BULIMUS COARCTATUS*, Pfr. *Bul. testâ rimato-perforatâ, ovato-acutâ, solidâ, albidâ, lineis interruptis, fuscis cingulatâ; spirâ conicâ, acutâ; anfractibus $6\frac{1}{2}$ planulatis, ultimo convexiore, spiram æquante; aperturâ angustâ, oblongâ, coarctatâ; columellâ incrassatâ, tuberculatâ; peristomate latè expanso, margine dextro introrsum incrassato, acutè prominente, medio sinuolato, cum columellari dilatato, reflexo, patente angulatim juncto.*

Long. 34, diam. 17 mill.

Locality unknown.

Nearly allied to *B. signatus*, Desh.

13. *BULIMUS DESHAYESII*, Pfr. *Bul. testâ umbilicatâ, turritâ, solidâ, striatulâ, violascenti-albâ, strigis et maculis violascenti-fuscis irregulariter signatâ; suturâ subcrenulatâ; anfractibus 9 vix convexiusculis, ultimo $\frac{1}{3}$ longitudinis subæquante; columellâ subrectâ; aperturâ ovali, intus violaceâ; peristomate simplice, recto, margine columellari dilatato, fornicatim reflexo, rimam umbilicarem non occultante.*

Long. 45, diam. 15 mill.

Locality unknown. (Coll. Cuming.)

14. *BULIMUS THOMPSONII*, Pfr. *Bul. testâ imperforatâ, ovato-oblongâ, solidâ, longitudinaliter striatâ, fusco-olivaceâ; spirâ conicâ, apice obtusâ, rubrâ; anfractibus 6, supremis planulatis, purpureo-strigatis, ultimo spiram æquante; suturâ albo-marginatâ, crenulatâ; columellâ rectâ (non tortâ), leviter arcuatâ; aperturâ oblongo-ovali, intus lividâ; peristomate subincrassato, recto, intus nigro-limbato, marginibus callo castaneo junctis, basali cum columellâ basin attingente subangulatim juncto.*

Long. 70, diam. 31 mill.

Locality, Quito. (Coll. Cuming.)

Nearly allied to *B. Taunaysii*.

15. *BULIMUS SQUIJORENSIS*, Pfr. *Bul. testâ imperforatâ, ovato-oblongâ, tenui, fulvâ, epidermide pallide fuscâ elegantissimè marmoratâ et flummatâ; spirâ conicâ, obtusâ, apice nudâ, rufescente; anfractibus 6 vix convexiusculis, ultimo spirâ vix brevior, subangulato; columellâ subtortâ, longitudinaliter biangulatâ, introrsum acutâ; aperturâ oblongo-subpyriformi, intus albidâ; peristomate tenui, breviter expanso, margine dextro deorsum dilatato, basali cum columellari angulum obsoletum formante.*

Long. 52, diam. 25 mill.

Locality, island of Siquijor (Philippines). Collected by Mr. Cuming.

16. *ACHATINA SEMISculpta*, Pfr. *Achat. testâ tenui, ovato-elongatâ, longitudinaliter regulariter striatâ, fusciscenti-albidâ, strigis fulgurantibus rufis pictâ; spirâ conicâ, apice obtusiusculâ, lineis confertis concentricis regulariter granulosâ; anfractibus $7\frac{1}{2}$ convexiusculis, ultimo spiram subæquante, usque ad peripheriam lineis impressis distantioribus decussato; columellâ subrectâ, abruptè truncatâ; aperturâ ovali-acutâ; peristomate simplice, recto.*

Long. 55, diam. 23 mill.

Locality, Africa, Loanda, coast of Benguela. (Coll. Cuming.)

17. *ACHATINA RETICULATA*, Pfr. *Achat. testâ oblongo-acutâ, solidâ, ponderosâ, longitudinaliter confertim plicatâ, sulcis concentricis profundè reticulatâ, albidâ, castaneo-marmoratâ et maculatâ; spirâ elongatâ, acutâ, supernè minutè granulatâ; suturâ subcrenulatâ; anfractibus 8 parùm convexis, ultimo $\frac{3}{7}$ longitudinis subæquante; columellâ crassâ, albâ, arcuatâ, abruptè truncatâ; aperturâ utrinque attenuatâ, oblongo-ovali.*

Long. 160, diam. 70 mill.

Locality, Africa. (Coll. Cuming.)

18. *ACHATINA PAPYRACEA*, Pfr. *Achat. testâ ovato-oblongâ, tenui, striis longitudinalibus et concentricis obsoletè decussatâ, diaphanâ, fulvâ, castaneo obsoletè marmoratâ; spirâ conicâ, apice obtusâ; suturâ marginatâ; anfractibus $5\frac{1}{2}$ vix convexiusculis, ultimo spiram vix superante; columellâ subrectâ, basin aperturæ fere attin-*

gente, obliquè truncatâ, lineâ purpureâ ornatâ; aperturâ ovali, intus margaritacêd.

Long. 66, diam. 30 mill.

Locality, banks of the river Nun in Africa. (Coll. Cuming.)

19. *ACHATINA FUSIFORMIS*, Pfr. *Achat. testâ ovato-fusiformi, tenui, longitudinaliter confertim costulatâ, lineis transversis minutè reticulatâ, fulvidâ, saturatius strigatâ; spirâ conicâ, acutiusculâ, apice rubescente; suturâ marginatâ; anfractibus 7-8 convexiusculis, ultimo spiram paulò superante, basi attenuato; columellâ leviter arcuatâ, abruptè truncatâ, rubellâ; aperturâ angustâ, oblongâ; peristomate simplice, repando, margine rubicundo.*

Long. 87, diam. 35 mill.

Locality, mountain of Coban, Vera Cruz, Central America. (Coll. Cuming.)

This species, as well as the next following, may perhaps belong to the genus *Glandina*.

20. *ACHATINA COSTULATA*, Pfr. *Achat. testâ ovato-fusiformi, tenui, longitudinaliter confertim et regulariter costulatâ, diaphanâ, fulvo-rubellâ, strigis parvis saturationibus ornatâ; spirâ pyramidalî, acutâ; suturâ sulco parallelo crenulato-marginatâ; anfractibus 8 vix convexiusculis, ultimo spiram vix æquante; columellâ subrectâ, abruptè truncatâ; aperturâ oblongâ, utrinque attenuatâ, intus margaritacêd.*

Long. 72, diam. 31 mill.

Locality, mountains of Quendeu, New Granada. (Coll. Cuming.)

21. *GLANDINA NIGRICANS*, Pfr. *Glan. testâ ovato-oblongâ, solidiusculâ, minutissimè striatâ, nitidissimâ, nigricante, strigis remotis angustis fulvis ornatâ, basi corneo-luteâ; spirâ conicâ; suturâ virenti-marginatâ; anfractibus 7 planulatis, ultimo $\frac{3}{8}$ longitudinis æquante; columellâ arcuatâ, callosâ, obliquè truncatâ, basin aperturæ non attingente; aperturâ angustâ, semiovali, intus concolore.*

Long. 35, diam. 16 mill.

Locality, Vera Cruz, in Central America. (Coll. Cuming.)

22. *GLANDINA MONILIFERA*, Pfr. *Glan. testâ fusiformi-ovatâ, tenui, pellucidâ, regulariter costulato-striatâ, costulis in medio anfractus ultimi evanescentibus, fulvo-rosâ, lineis remotis rufis pallidè marginatis ornatâ; spirâ brevi, conicâ; suturâ eleganter et confertim granulosa; anfractibus 7 planiusculis, ultimo $\frac{3}{8}$ longitudinis subæquante, ventroso; columellâ vix arcuatâ, basi abruptè truncatâ; aperturâ angustâ, semiovali.*

Long. 29, diam. $14\frac{1}{2}$ mill.

Locality, mountains of Coban, Vera Cruz, Central America. (Coll. Cuming.)

A number of Birds'-skins from Australia were presented to the Society by Jeremiah Olive, Esq.

The Secretary exhibited to the Meeting a specimen of Sand Grouse,

Tyrrhaptēs paradoxus, and five specimens of Mammals (all of which were new to the Society's collection), from the Altai Mountains of Siberia, viz. :—

Meriones opimus,
Aspalax Zokar,
Mustela Altaica,
Dipus Jaculus,
Mygale moschata.

Mr. Gould laid upon the table a series of Terns, and characterized a new species :—

STERNA GRACILIS. *St. summo capite et nucha posteriore saturatè nigris; lateribus nuchæ et parte inferiore seriaceo-albis; pectore et abdomine leviter rosaceis; rostro carnicolore, apice brunneo-nigro; pedibus aureo-fuscis.*

Crown of the head, nape and back of the neck deep black; sides of the neck and all the under surface silky white, with a blush of rosy red on the breast and abdomen; back, wings and tail light grey, becoming darker on the primaries; irides brownish red; bill flesh-colour, except at the tip, where it is washed with blackish brown; feet orange-red.

Total length, 13 inches; bill, $2\frac{1}{8}$; wing, $8\frac{1}{2}$; tail, $6\frac{1}{2}$; tarsi, $\frac{3}{4}$.

Hab. The Houtmann's Abrolhos, off the western coast of Australia.

June 24, 1845.

No business was transacted.

July 8, 1845.

William Yarrell, Esq., Vice-President, in the Chair.

Mr. Gould exhibited to the Meeting five new species of Mammals:—

MUS LINEOLATUS. *M. vellere longo, molli fusco-cinereo corpore subtùs cinerascanti-albo indistinctè flavo-lavato; auribus mediocribus extus pilis nigris posticè cinerascantibus vestitis; pedibus albis; caudà albà suprà nigrescentibus.*

| | unc. lin. | |
|---|-----------|----|
| Longitudo ab apice rostri ad caudæ basin. . . . | 5 | 4 |
| ———— caudæ | 4 | 5 |
| ———— ab apice rostri ad basin auris | 1 | 2 |
| ———— auris | 0 | 7½ |
| ———— tarsi digitorumque | 1 | 2¾ |

Hab. Open plains, Darling Downs, New South Wales.

Fur long and very soft; the hairs of the back of a deep slate-grey, with the exposed portion of a dirty yellowish hue, and the points black; long interspersed black pointed hairs are abundant on the back, and give a deep general tint to that part; sides of the body greyish yellow, under parts grey-white, faintly suffused with yellowish; the hairs on these parts of a deepish grey, excepting at the point; hairs of the moustaches rather small and black; eye encircled with black; ears of moderate size and well-covered with minute hairs; those on the outer side black, excepting on the hinder part, where they assume a greyish white tint, like those on the inner side of the ear; feet rather small and white; the fore-ones greyish at the wrist, and the tarsi indistinctly suffused with yellowish; tail about equal in length to the head and body, well-clothed with smallish hairs, which do not perfectly hide the scales; those on the upper surface chiefly brownish black, slightly pencilled with whitish in parts; on the sides and under part white.

MUS GRACILICAUDATUS. *M. vellere longo molli cinerascanti-fusco; corpore subtùs albo, indistinctè flavo-lavato; auribus parvulis pilis obscuris plerumque obsitis; pedibus sordidè albis; caudà fusco-nigrà, subtùs sordidè albà.*

| | unc. lin. | |
|---|-----------|----|
| Longitudo ab apice rostri ad caudæ basin. . . . | 5 | 0 |
| ———— caudæ | 3 | 5 |
| ———— ab apice rostri ad basin auris | 1 | 2½ |
| ———— auris | 0 | 5 |
| ———— tarsi digitorumque | 1 | 1 |

Hab. Oakley Creek, Darling Downs, east coast of Australia.

This species greatly resembles the *Mus lineolatus*, but differs in
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having the ears smaller, and clothed internally with dusky hairs instead of white; the incisor teeth rather broader; the tarsi smaller; the fore-feet much smaller; the tail more sparingly clothed with hairs, which are of a less pure white on the under side, and the darker hairs of the upper surface extending somewhat on to the sides of the tail, and in not presenting that strongly-marked line of separation between the colouring of the upper and under surface. The fur is rather less soft, less tinted with yellow on the upper parts, and more so on the sides of the body.

MUS ALBOCINEREUS. *M. vellere longo permolli, pallidè cinereo, in dorsum pallidè fusco tincto; corpore subtùs, caudà, pedibusque albis; caudà suprà indistinctè nigro penicillatà; auribus medio-cribus pilis albescentibus vestitis.*

| | unc. | lin. |
|---|------|------|
| Longitudo ab apice rostri ad caudæ basin. . . . | 3 | 9 |
| ———— caudæ | 3 | 6 |
| ———— ab apice rostri ad basin auris | 1 | 1½ |
| ———— auris | 0 | 5½ |
| ———— tarsi digitorumque | 0 | 10 |

Hab. Moore's River, in the interior of Western Australia.

This mouse is rather larger than the *Mus musculus*, and considerably stouter in proportion; has the head large, the ears moderate; the tail nearly equal to the head and body in length; the tarsi very slender; the fur very long and soft, and its general hue pale ashy grey; on the hinder part of the back a slight brownish tint, produced by a very fine and indistinct pencilling of dusky or pale greyish yellow; the lower part of the sides of the body and the whole of the under parts white, but not quite pure, having a faint greyish hue; the head grey-white, pencilled with black; the sides of the muzzle white; the ears well-clothed with minute greyish white hairs; the feet white, and if we except some scattered blackish hairs on the upper surface, the tail also white.

HAPALOTIS MURINUS. *Hap. vellere permolli, corpore suprà pallidè flavo, nigroque penicillato, lateribus corporis flavis; gulà abdominis, caudà, pedibusque albis; caudà suprà indistinctè nigro penicillatà; auribus magnis, subovatis, pilis minutis albis vestitis.*

| | unc. | lin. |
|---|------|------|
| Longitudo ab apice rostri ad caudæ basin. . . . | 5 | 6 |
| ———— caudæ | 3 | 9 |
| ———— ab apice rostri ad basin auris | 1 | 3 |
| ———— auris | 0 | 10 |
| ———— tarsi digitorumque | 1 | 0½ |

Hab. Plains near the Namoi, New South Wales.

This animal is remarkable for the extreme softness and delicate colouring of its fur, which on both the upper and under parts of the body is of a slate-grey tint next the skin, but on the under parts of a pure white colour externally, except on the mesial line of the abdomen, where there is a slight yellow tint; on the upper parts and sides of the body the exposed portions of the hairs are of a delicate

ochreous yellow, but on the back there is a considerable admixture of black, the points of the hairs being of that colour; ears rather large and nearly of an oval form, tolerably well-clothed with small hairs, of a white colour, excepting on the fore-part of the outer surface, where they assume a dusky greyish hue; tail nearly equal in length to the body, tolerably well-clothed with hairs, but not so thickly as to hide the scales; these hairs, though short, are longer, more numerous and much less harsh than is usual in the true Rats; on the sides and under part of the tail they are pure white, and on the upper surface some are white and others blackish, but chiefly white on the apical portion; sides of the muzzle white; hairs of the moustaches moderate, black at the root, but greyish at the point.

PODABRUS MACROURUS. *Pod. cinereus nigro penicillatus; lateribus corporis flavescentibus, gula, abdomine pedibusque albis; capite suprâ lined nigrâ longitudinali notato; oculis nigro cinctis; auribus mediocribus intus pilis flavis, extus nigrescentibus obsitis; caudâ crassissimâ ad apicem attenuatâ, pilis minutis, suprâ nigro flavoque variegatis, subtus albescentibus, vestitâ.*

| | unc. lin. |
|---|-----------|
| Longitudo ab apice rostri ad caudæ basin. . . . | 3 9 |
| —— caudæ | 3 2 |
| —— ab apice rostri ad basin auris | 1 0½ |
| —— auris | 0 5 |
| —— tarsi digitorumque | 0 8½ |

Hab. Open plains, Darling Downs, New South Wales.

Fur very soft, and both on the upper and under parts of the body of a slate-grey colour next the skin; general hue of the upper parts of the body ashy grey, much pencilled with black; on the sides of the body there is but little of the black pencilling, and hence the general hue is paler; and on these parts, as well as on the sides of the head, is a faint yellow tint; under parts of the body white, very indistinctly suffused with yellow on the mesial portion of the abdomen; between the white of the under parts and the greyish hue of the sides of the body is a narrowish space of an almost uniform pale yellow hue, and the same tint is observable on the outer side of the legs; feet white, obscurely tinted with pale yellow; on the upper surface of the head is a mark, narrow on the muzzle, but becoming expanded behind, which is almost entirely black, and immediately around the eyes the hairs are also black; ears of moderate size, their posterior margin nearly straight, clothed internally with small pale yellowish, and externally with black hairs, excepting on the hinder part, where they are pale; tail very thick at the base (about 3½ lines in diameter), becoming gradually slender to the apex, and clothed throughout with very minute hairs, between which the scaly skin is visible; those on its upper part and sides partly black and partly yellow, and on the under surface dirty white. The specimen described is a male.

July 22, 1845.

Harpur Gamble, Esq., M.D., in the Chair.

Mr. Gould exhibited to the Meeting three new species of Birds from Australia:—

STRIX TENEBRICOSUS. *Str. disco faciali fuliginoso-griseo, circum oculos multo saturatiore; corpore superiore fusco-nigro purpureo splendente, singulis autem plumis maculâ alba ad apicem ornatis; alis caudâque ejusdem coloris sed pallidioribus; corpore inferiore fusco-nigro, stramineo lavato.*

Facial disk sooty grey, becoming much deeper round the eyes; upper surface brownish black, with purplish reflections and with a spot of white near the tip of each feather; wings and tail of the same hue, but paler; the feathers of a uniform tint, without bars; tail-feathers faintly freckled with narrow bars of white; under surface brownish black, washed with buff, and with the white marks much less decided; legs mottled brown and white; irides dark brown; bill horn-colour; feet yellowish.

Total length, 16 inches; bill, $1\frac{3}{4}$; wing, 12; tail, $5\frac{1}{2}$; tarsi, 3.

Hab. The brushes of the river Clarence, in New South Wales.

COLLURICINCLA RUFOGASTER. *Col. omni corpore superiore, alis, caudâque olivaceo-brunneis; gula pallidâ stramineo-alba fusco-striatâ; corpore inferiore ferrugineo-rufa.*

All the upper surface, wings and tail olive-brown, with the exception of the inner webs of the primaries, which are dark brown; throat pale buffy white, streaked with brown; all the under surface rusty red; irides black; bill and feet fleshy-brown.

Total length, $7\frac{1}{2}$ inches; bill, $1\frac{1}{8}$; wing, $3\frac{3}{4}$; tail, $3\frac{1}{4}$; tarsi, $1\frac{1}{8}$.

Hab. The brushes of the Clarence River, in New South Wales.

DONACOLA FLAVIPRYMNA. *Don. capite cervino; dorso alisque castaneo-brunneis; corpore inferiore stramineo; tectricibus caudæ superioribus cerinis; tectricibus caudæ inferioribus nigris.*

Head pale fawn colour; back and wings light chestnut-brown; under surface buff; upper tail-coverts wax-yellow; under tail-coverts black; tail brown.

Total length, $4\frac{1}{2}$ inches; bill, $\frac{1}{2}$; wing, $2\frac{1}{4}$; tail, $1\frac{3}{4}$; tarsi, $\frac{3}{4}$.

Hab. The north coast of Australia.

Prof. Owen communicated his observations on the living *Echidna* exhibited at the Menagerie of the Society in May 1845. The animal when received at the Gardens was active and apparently in sound health. It was placed in a large but shallow box, with a deep layer

of sand on one half of the bottom; the top covered with close cross-bars. The animal manifested more vivacity than might have been expected from a quadruped which, in the proportions of its limbs to the body, as well as in its internal organization, makes the nearest approach, after the *Ornithorhynchus*, to the *Reptilia*. In the act of walking, which was a kind of waddling gait, the body was alternately bent from one side to the other, the belly was lifted entirely off the ground, and the legs, though not so perpendicular as in higher mammals, were less bent outwards than in Lizards. The broad and short fore-paws were turned rather inwards; the hind-feet had their claws bent outwards and backwards, resting on the inner border of the sole. The animal was a male, and the tarsal spur, smaller and sharper than in the *Ornithorhynchus*, projected backwards and outwards, almost hidden by the surrounding coarse and close hair. The small eyes gleamed clear and dark; the ball was sensibly retracted when the animal winked, which it did frequently. It commenced an active exploration of its prison soon after it was encaged: the first instinctive action was to seek its ordinary shelter in the earth, and it turned up the sand rapidly by throwing it aside with strong strokes of its powerful fossorial paws, and repeating the act in many places, until it had assured itself that the same hard impenetrable bottom everywhere opposed its progress downwards. The animal then began to explore every fissure and cranny, poking its long and slender nose into each crevice and hole, and through the interspaces of the cross-bars above. To reach these it had to raise itself almost upright, and often overbalanced itself, falling on its back, and recovering its legs by performing a summerset. I watched these attempts of the animal to escape for more than an hour, and it was not until it had got experience of the strength of its prison, that the *Echidna* began to notice the food which had been placed there.

This consisted of a saucer of bread and milk and some meal-worms. The milk was sucked or rather licked in by rapid protrusion and retraction of the long red cylindrical tongue. The tongue came more than once in contact with the larvæ, which were sometimes rolled over by it, but no attempt was made to swallow them.

The moist dark end of the nose felt cold to the touch. The temperature of the animal at the cloaca was 85° Fahr., or nearly ten degrees lower than that of the anus of a rabbit.

The *Echidna* offered little resistance when seized by the hind-leg and lifted off the ground, and made not the slightest demonstration of defending himself by striking with his hind spurs: the only action when irritated was to roll itself into a ball, like a hedgehog—the bristles being then erect. This was the position chosen for sleep; but our *Echidna* showed little of that sluggishness which the French naturalists ascribe to their live specimen on ship-board (*Voyage de la Favorite*, p. 159).

The blood-discs manifested the true mammalian type in their number, size and form: they were flat, circular, averaging $\frac{1}{3200}$ th of an inch diameter; a few large ones were rather less than $\frac{1}{3000}$ th; the smallest was $\frac{1}{3800}$ th.

The circular form of the blood-discs of the Echidna was noticed by Dr. John Davy in some blood of that animal which had been transmitted to him in brine from Van Diemen's Land. More satisfactory observations had been made by Dr. Hobson and Mr. E. Bedford, on the recent blood of both the Ornithorhynchus and Echidna. I have cited these observations in my article 'Monotremata (Cyclop. of Nat. Hist.)'; they show that the blood-discs of the Ornithorhynchus are likewise discoid, circular, and about $\frac{1}{3000}$ th of an inch in diameter; and the observations now made on both ovoviviparous genera demonstrate that the Monotremata resemble the other Mammalia in the form, proportional number, and florid colour of the blood-discs, which correspond in size with those of the Armadillo and the Quadrumana, but are larger in proportion to the size and weight of the body than in the larger apes and the human species.

The Echidna having died unexpectedly a short time after its arrival, has afforded a favourable opportunity of investigating certain obscure parts of its anatomy, the results of which Prof. Owen would communicate at some future opportunity.

Prof. Owen next exhibited the skull of a Wombat (*Phascolomys Vombatus*, Auct.) from Van Diemen's Land, and the skull of a Wombat, transmitted by Governor Grey, from Continental (South) Australia, and pointed out the following differences in proof of their specific distinction. They are of equal size, but the skull of the specimen from South Australia is broader in proportion to its length. In the continental species, which he proposed to call *Phascolomys latifrons*, the upper incisors present a transverse semi-oval section, the convex enamelled surface being directed forwards and outwards. This surface is feebly striated longitudinally. The lower incisors are narrower than in *Phasc. Vombatus*, and triangular, the enamelled anterior or under surface is flat, the outer surface longitudinally impressed and almost devoid of enamel. The first lower molar (premolar) is relatively larger, the last relatively smaller, in *Phasc. latifrons*: the symphysis of the jaw is narrower and deeper. The intermaxillary part of the skull is higher in proportion to its width, less convex externally; the nasal bones are relatively broader, forming the whole upper surface of the anterior third of the skull. The inter-orbital part of the skull is relatively much broader, and is produced on each side into a well-marked supra-orbital ridge and post-orbital process, both of which are almost obsolete in *Phasc. Vombatus*. The temporal fossæ are not bounded, as in *Phasc. Vombatus*, by two nearly parallel and remote longitudinal ridges, but are continued by a convex, rather irregular tract, to near the middle of the upper region of the cranium. A very remarkable feature in the skull of the *Phasc. latifrons* is the supra-tympanic cell excavated beneath the base of the zygoma: this cell, in *Phasc. Vombatus*, is transversely oblong, simple, one inch by half an inch in size; in *Phasc. latifrons* it extends inwards one inch and a quarter, and expands to an antero-posterior diameter of one inch and a half, and a vertical diameter of one inch, having an oblong outlet one inch

in length and half an inch in depth, slightly contracted in the middle. This difference in the size of the supra-tympanic cell is obviously not the effect of age, as the skull of the *Phasc. Vombatus* compared is that of an old animal with strong temporal ridges. In *Phasc. latifrons* the articular surface for the condyle of the lower jaw is broader and less convex; the anterior boundary of the zygomatic space is less angular; the palatal surface of the intermaxillaries is deeper; the curve of the lower border of the lower jaw is much deeper; the inner angle of the condyle is less produced; the coronoid process is higher and narrower, and the post-symphysial depression is almost obsolete.

The Secretary saw with much pleasure the decisive proofs which Professor Owen had shown of the existence of two species of Wombat; he had many years before been himself convinced of the fact, having observed that they differed in size and colour, and that one had a sharp prick ear, while the ear of the other was low and elliptical.

August 12, 1845.

William Yarrell, Esq., Vice-President, in the Chair.

"Descriptions of new species of *Murex*," by Lovell Reeve, Esq. :—

MUREX BIPINNATUS. *Mur. testâ elongato-fusiformi, spirâ acuminato-turrilâ; anfractibus septenis, transversim eximie liratis et elevato-striatis, liris striis interstitiisque subtilissimè scabroscrenulatis; anfractibus primis sex tuberculato-nodosis, ultimo tri-varicoso, varicibus ultimis duobus pulcherrimè fimbriato-pinnatis; nived, rosaceo tinctâ, columellâ pallidè roseâ; aperturâ parvâ, labri externi limbo minutè denticulato; canali latiusculo, subelongato.*

Hab. — ?

The *Murex bipinnatus* approaches the *Murex clavus* in general form, but the detail of structure and sculpture is distinct throughout. The spire exhibits a mass of prominent nodules, each whorl taking the form of a heptagon, with as many as seven on its circumference. The last two varices are ornamented with a handsome laminated frill structure.

MUREX SINENSIS. *Mur. testâ elongato-ovatâ, subfusiformi, tenui, spirâ suturis subimpressis; anfractibus transversim liratis et striatis, inter varices nodiferis; trifariam varicosâ, varicibus frondosis, frondibus regularibus, curvatis, pulcherrimè floridis, incisosserratis; albicante, fusco tinctâ, lineis transversis fuscis; labro infra medium fortiter erecto-dentato.*

Hab. China.

This species appears to have been confounded for some time past with the young of the *Murex ramosus* or *elongatus*. It is uniformly of a thin structure, and the fronds are of a delicate open flowery growth.

MUREX STEERÆ. *Mur. testâ abbreviato-fusiformi, crassâ, transversim granoso-lirâtâ, inter varices fortiter tuberculâtâ; trifariam varicosâ, varicibus incrassatis, frondosis, frondibus crispatoramosis, subcompressis, breviusculis, fronde parvâ interveniente; fuscâ liris nigricantibus, frondibus purpureo-roseis, columellâ et aperturæ fauce albis, labro externo incrassato, intus denticulato; canali breviusculo.*

Hab. — ?

This shell might easily be mistaken for an accidental stunted growth of the *Murex palma-rosæ*, were it not for the constancy and marked peculiarity of its characters. The fronds are short and somewhat erect, with a row of small fronds sprouting up at their base;

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they are also laterally pinched as it were, and do not spread in the same flowery bifurcate manner as in the *Murex palma-rosæ*.

MUREX RUBIGINOSUS. *Mur. testâ fusiformi, interdum subabbreviatâ, transversim granoso-lirâtâ et striatâ, inter varices fortiter tuberculatâ; trifariam varicosâ, varicibus frondosis, frondibus foliaceis, brevibus, alternis parvis, recumbentibus; rubiginosâ, liris frondibusque nigricante-fuscis; columellâ rubiginoso-lutâ, aperturâ fauce albâ.*

Hab. Philippine Islands; Cuming.

This shell, of which I have seen several characteristic specimens, is quite distinct from any hitherto described.

MUREX CRASSIVARICOSA. *Mur. testâ subabbreviato-fusiformi, crassiusculâ, transversim granoso-lirâtâ et striatâ; trifariam varicosâ, varicibus incrassatis, rotundatis, frondosis, frondibus parvis, foliaceis, alternis minoribus; livido-ferruginâ, aperturâ fauce albâ.*

Hab. — ?

A new species, of which I have seen several examples, distinguished amongst other characters by the stunted thickened growth of the varices.

MUREX OCULATUS. *Mur. testâ fusiformi-oblongâ, crassiusculâ, undique leviter scabrosâ, transversim lirâtâ et striatâ, inter varices bituberculatâ; trifariam varicosâ, varicibus lamellis brevibus subcomplicatis tuberculatis; albâ, rufo-fuscescente tinctâ, varicibus maculis quadratis rubentibus alternatim pictis, columellâ rubentelutâ, aperturâ fauce albâ, labro nigerrimo-fusco, supernè præcipuè, maculato, apice rubente; canali breviusculo, compresso, recurvo.*

Hab. — ?

Although this shell has so many characters in common with the *Murex pomum*, it exhibits a constant peculiarity of colour, form and sculpture. In colour it is peculiarly tinged and spotted with red; in form it is more graceful and slender, and in sculpture it is smoother and presents two tubercles between each varix. I have seen numerous examples of this species, and can distinguish them at a glance from the *Murex pomum*.

MUREX ALABASTER. *Mur. testâ trigono-fusiformi, spiræ testæ longitudinem æquante, anfractibus transversim liratis et striatis, liris lævibus, supernè angulatis, nodulis duobus tribusve subconspicuis ad angulum armatis; trifariam varicosâ, varicibus laminato-alatis, tuberculo erecto profundè canaliculato ad angulum munitis; intus extusque eburnâ; canali breviusculo.*

Hab. Island of Cagayan, province of Misamis, island of Mindanao, Philippines (found on the beach); Cuming.

Mr. Sowerby referred this extraordinary shell with some doubt to the *Murex acanthropterus*; its proportions are however so utterly different that I have no hesitation in describing it as a new species.

MUREX AMBIGUUS. *Mur. testâ globosâ, subpyriformi, transversim*

liratâ, liris irregularibus erectis, interruptis; octofariam varicosâ, varicibus frondosis, frondibus alternis vel paucioribus elato-ramosis, spinosis, basalibus longioribus; albâ, frondibus lirisque aterrimis, labri columellari parte superiori nigro tinctâ; canali breviusculo.

Hab. — ?

Three species appear to have been confounded hitherto under the common title of *Murex radix*, which, though closely approximating, may be separated without difficulty with a little careful discrimination. The true *Murex radix* is a round, particularly solid, heavy shell, with a short though sharply acuminate spire with never less than ten varices, in which the fronds are numerous, somewhat laterally compressed, comparatively short and sharp-pointed. The species described by Dr. Philippi under the title of *Murex nigrinus* has but eight or nine varices, and the fronds are not branched; those on the upper angle of the whorl being tubercularly squamate, those in the middle flat and very obscure, whilst those at the base are long and horn-shaped. In the species under consideration the shell is of somewhat light structure, and the fronds are large, open and flowery.

MUREX TRIFORMIS. *Mur. testâ trigono-ovatâ, crassiusculâ, transversim lirâtâ et corrugatâ, tuberculis duobus aut pluribus inter varices; trifariam varicosâ, varicibus laminato-fimbriatis, supernè excavato-sinuatis; ferrugineo-fuscâ; aperturâ ovatâ, supernè sinuatâ.*

Hab. New Holland.

This shell, which Mr. Sowerby thought to be a variety of the *Murex acanthropterus*, is of a rude solid structure and dark rusty brown colour.

MUREX PELLUCIDUS. *Mur. testâ trigono-fusiformi, tenui, transversim lirâtâ, pulcherrimè squamatâ, inter varices tuberculâtâ; trivaricosâ, varicibus obliquis, latissimè et eximè alatis; pellucido-albâ; aperturâ parvâ, labro intus nodoso.*

Hab. Island of Bantayan, Philippines (found upon a coral bottom at the depth of seven fathoms); Cuming.

Mr. Sowerby has rather incautiously referred this shell to the *Murex trigonularis* of Lamarck, which Mr. Gray considers to be merely a worn specimen of the *Murex acanthropterus*, and M. Kiener one of the *Murex phyllopterus*. The shell under consideration differs essentially from both of these, and the characters which it presents are not at all in accordance with Lamarck's description of *Murex trigonularis*.

MUREX OSSEUS. *Mur. testâ oblongo-ovatâ, subfusiformi, leviusculâ, inter varices fortiter tuberculâtâ; trivaricosâ, varicibus fimbriato-laminatis, supernè falcatis; albâ, castaneo-fusco hic illic tinctâ; aperturâ peculiariter parvâ, ovatâ.*

Hab. — ?

Murex pinniger is perhaps the nearest allied species to this, though of very different form.

MUREX GAMBIENSIS. *Mur. testâ fusiformi, infernè attenuatâ, solidiusculâ, transversim obsoletè striatâ, tuberculo magno prominulo inter varices; trivaricosâ, varicibus plicato-laminatis, supernè falcatis, ad basim alatis; albâ, fusco hic illic punctatâ; aperturâ parvâ, canali longiusculo.*

Also allied to the *Murex pinniger*, but of a more elongated form and different style of colouring.

MUREX MARTINIANUS. *Mur. testâ trigono-clavæformi, transversim liratâ, liris nodulosis, inæqualibus; trifuriam varicosâ, varicibus rarispinosis, spinis breviusculis; luteo- vel griseo-cærulescente, canali fuscescente; aperturâ ovatâ, labro dente planulato, erecto, munito; canali longissimo, recto, supernè spinoso.*

Hab. — ?

This shell was supposed to have been the *Murex rarispina* of Lamarck, but it having been satisfactorily shown by both Kiener and Deshayes that Mr. Sowerby's *Murex formosus* is that species, I propose to distinguish it by the above new title.

MUREX FUNICULATUS. *Mur. testâ clavæformi, transversim liratâ, liris ad summitem funiculatis, costis tribus vel quatuor plicæformibus longitudinalibus inter varices; trivaricosâ, varicibus spinosis, spinis brevibus, acutis, sursum inclinatis; fuscescente-albâ, funiculis transversis castaneis; aperturâ ovatâ, columellâ labroque intus noduliferis; canali elongato.*

Hab. — ?

An interesting species, well-characterized by the fine dark chestnut-brown cords with which it is encircled throughout at equal distances.

MUREX NIGRISPINOSUS. *Mur. testâ elongato-clavæformi, transversim liratâ et striatâ, liris inæqualibus, subnodosis, spirâ breviusculâ; trifuriam varicosâ, varicibus spinosis, spinis erecto-elongatis; canali elongato, ad extremitatem leviter recurvo, spinoso, spinis longis, subcurvatis purpurascente-albâ, fasciis tribus vel quatuor fuscescentibus subindistinctè cingulatâ, spinis purpureo-nigricantibus.*

Hab. — ?

This shell approximates to the *Murex tribulus*, but its characters present an agreeable modification throughout, which may be considered of specific importance. The spines are constantly tipped with black.

MUREX BELLUS. *Mur. testâ clavæformi, transversim liratâ, liris tuberculato-nodosi; trivaricosâ, varicibus rotundis, tuberculato-liratis, spinâ brevi acutâ ad basim; albicante, castaneo-fusco supra et infra maculatâ, liris castaneo conspicuè funiculatis, columellâ labroque rufo-aurantio tinctis; canali subelongato.*

Hab. — ?

Allied to the *Murex chrysostoma* in respect to its rufous orange mouth, but of a different colour and sculpture throughout.

August 26, 1845.

William Horton Lloyd, Esq., in the Chair.

"Remarks on the genus *Achatinella*, Swainson, and descriptions of six new species from Mr. Cuming's collection." By Dr. L. Pfeiffer.

Upon examining the long series of forms which occur in the vast family of the *Heliceæ*, I have ascertained that there are several groups which Nature herself seems to have characterized as genera, though it would be very difficult to draw out such a generic definition as would exclude all other nearly allied species. One of these natural groups is the genus *Achatinella*, proposed by Swainson in Brandt's Journal, 1828, which appears to be peculiar to the Sandwich Islands, and has been united to the genus *Bulimus* by most recent authors, as by myself in my 'Symbolæ.' However, the greater the number of species we become acquainted with, the more convenient it appears to unite them together as a distinct genus. I may therefore be permitted to give a short account of the species now known.

1. *ACHATINELLA LUGUBRIS* (*Turbo*), Chemn. Described by Lamarck under the name of *Monodonta seminigra*, and figured by Swainson in the Zool. Illustr. under the name of *A. pica*. Of course the name of Chemnitz must be retained.
2. *ACHATINELLA PERVERSA*, Swains. Synon. *Helix decora*, Fér., t. 155. f. 5—7; *Bulimus decorus*, Pfr. Symb.
3. *ACHATINELLA ACUTA*, Swains. *Hel. spirizona*, Fér., t. 155. f. 14, 15.
4. *ACHATINELLA BULIMOIDES*, Swains. *Hel. lorata*, Fér., t. 155. f. 9—11; *Bul. loratus*, Pfr. Symb.
5. *ACHATINELLA LIVIDA*, Swains. *Hel. vulpina*, Fér., t. 155. f. 1, 2; *Bul. vulpinus*, Pfr. Symb.
6. *ACHATINELLA ROSEA*, Swains. A very distinct species, to which none of Férussac's figures may be referred.
7. *ACHATINELLA PULCHERRIMA*, Swains. This species might perhaps be considered as a dextrous variety of *A. livida*.
8. *ACHATINELLA TURRITELLA* (*Hel.*), Fér., t. 155. f. 13; *Bul. turritella*, Pfr. Symb.
9. *ACHATINELLA TRISTIS* (*Hel.*), Fér. Mus.; *Bul. tristis*, Pfr. Symb.
10. *ACHATINELLA VENTULUS* (*Hel.*), Fér. Mus.; *Bul. ventulus*, Pfr. Symb.
11. *ACHATINELLA RADIATA*, Pfr. *Ach. testâ ovatâ, solidulâ, leviter striatâ, nitidâ, viridi et lutco radiatâ, strigis intercurrentibus nigricantibus; spirâ conicâ, obtusiusculâ; suturâ marginatâ; an-*

fractibus $5\frac{1}{2}$ *vix convexiusculis*, ultimo spirâ paulô breviorē; columellâ dente brevi calloso rubello munitâ; aperturâ oblongo-ovali; peristomate intus fusco-rubello-labiato.

Long. 19, diam. 10 mill.

Ins. Sandwich. (Mus. Cuming.)

12. *ACHATINELLA PICTA*, Pfr. *Ach. testâ sinistrorsâ, ovato-elongatâ, striatâ, corned, maculis et flammis nigro-fuscis eleganter pictâ; spirâ turrâ, gracili, acutiusculâ; suturâ simplice; anfractibus 6 convexis, ultimo $\frac{3}{7}$ longitudinis subæquante; columellâ valdè tortâ, dente planulato, acutè prominente, albo munitâ; aperturâ oblongâ; peristomate simplice, acuto.*

Long. $12\frac{1}{2}$, diam. 7 mill.

Ins. Sandwich. (Mus. Cuming.)

13. *ACHATINELLA BREVIS*, Pfr. *Ach. testâ ovatâ, brevi, solidâ, obliquè striatâ, nitidâ, fuscâ; spirâ conicâ, acutiusculâ; anfractibus 6 convexiusculis, ultimo $\frac{1}{3}$ longitudinis vix superante, subgloboso; columellâ breviter arcuatâ, acutè dentatâ; aperturâ rotundato-lunari; peristomate simplice, albo.*

Long. 11, diam. $6\frac{1}{2}$ mill.

Ins. Sandwich. (Mus. Cuming.)

14. *ACHATINELLA PYRAMIS*, Pfr. *Ach. testâ ovato-pyramidatâ, lævissimè striatâ, diaphand, virenti-corned; spirâ pyramidatâ, apice acuto; suturâ lineari, angustè marginatâ; anfractibus 8 planis, ultimo $\frac{3}{8}$ longitudinis subæquante; columellâ brevissimè arcuatâ, plicâ dentiformi complanatâ, acutâ, munitâ; aperturâ ovali.*

Long. 12, diam. $5\frac{1}{2}$ mill.

Ins. Sandwich. (Mus. Cuming.)

15. *ACHATINELLA CLARA*, Pfr. *Ach. testâ oblongâ, longitudinaliter plicatulo-striatâ, pellucidâ, pallidè corned; spirâ turrâ, apice obtuso; suturâ lined rufâ marginatâ; anfractibus 8 planiusculis, ultimo $\frac{1}{3}$ longitudinis vix æquante; columellâ vix arcuatâ, dente parùm prominente munitâ; aperturâ ovali.*

Long. 12, diam. $4\frac{3}{4}$ mill.

Ins. Sandwich. (Mus. Cuming.)

16. *ACHATINELLA CORNEOLA*, Pfr. *Ach. testâ ovato-oblongâ, lævissimè striatâ, pellucidâ, nitidâ, corned; spirâ turrâ, apice obtusiusculo; suturâ subsimplice; anfractibus 8 planiusculis, ultimo $\frac{2}{3}$ longitudinis subæquante; columellâ valdè arcuatâ, dente acutè prominente, albo, complanato instructâ; aperturâ irregulariter ovali; peristomate intus callo tenui, nitido, albo sublabiato.*

Long. 15, diam. 7 mill.

Ins. Sandwich. (Mus. Cuming.)

17. *ACHATINELLA GRAVIDA* (Hel.), Fér., t. 155. f. 3, 4.

18. *ACHATINELLA LUTEOLA* (Hel.), Fér., t. 155. f. 12. These two species I have not been able to find out of the great number of varieties and species I had the opportunity of examining.

September 9, 1845.

No business was transacted.

September 23, 1845.

William Yarrell, Esq., Vice-President, in the Chair.

Edward Fitton, Esq., exhibited to the Meeting a fine male specimen of the White-winged Crossbill (*Loxia leucoptera*), in red plumage, which he had picked up dead upon the shore at Exmouth on the 17th instant. It appeared to have been injured on the back of the head, and to have crept into a crevice of one of the loose fragments of rock on the shore, where it was found by Mr. Fitton, partly covered with wet sand.

The wind at the time was south-west, and had been blowing hard from north-west to west and south-west for some days.

Mr. Yarrell exhibited a full-grown Herring, having a lobe of female, or hard roe, on one side, and a lobe of male, or soft roe, on the other. This degree of malformation has not hitherto been recorded as found in the herring, but has been observed in the perch, mackerel, carp, cod, whiting and sole.

October 14, 1845.

William Yarrell, Esq., Vice-President, in the Chair.

“On the size of the Red Corpuscles of the Blood in the Vertebrata, with copious Tables of Measurements.” By George Gulliver, Esq., F.R.S.

The following Tables contain a synopsis of my former observations*, corrected when necessary and extended by many more since made and now first published. They include altogether no less than 485 species, here systematically arranged, so as to exhibit a summary, and yet more complete view than any yet extant, of the size of the blood-corpuscles in the different subdivisions of vertebrate animals. In this respect I hope the Tables may be useful, as well as for reference in connection with physiological questions now often arising. I have introduced no measurement not made by myself. The observations on the form and size of the corpuscles, unless otherwise expressed, refer to the majority of them as existing in any portion of the blood of the adult animal spoken of; for there may be a few differing greatly from the average. In the blood-corpuscles of the Oviparous Vertebrata, for example, there are often many gradations of form, from the well-marked and prevailing ellipse, to the longer or shorter oval or even circular figure; and in any mammal some of the corpuscles are a third larger and some a third smaller than the mean size.

MAMMALIA

Various sizes of the corpuscles.—The corpuscles of the Elephant are the largest yet known; then follow those of the Sloth and of the

* On the Corpuscles of Marsupialia, of the *Camelidæ*, and of *Moschus Javanicus*, Annals Nat. Hist., Dec. 1839, Phil. Mag. same date, and Dublin Med. Press, Nov. 27, 1839; on the Blood-Corpuscles of Mammalia and Aves, in an Appendix to the English version of Gerber's Anatomy, 8vo. Lond. 1842; on the Nuclei of the Blood-corpuscles of Vertebrata, Note to Dr. Willis's tr. of Wagner's Physiology, p. 240 *et seq.*, 8vo. Lond. 1844, and Phil. Mag., Aug. 1842; on the Pus-like Globules of the Blood, Phil. Mag., Sept. 1842, and Note to Wagner's Physiology, p. 250–252; on the Blood-corpuscles of the *Camelidæ* and of the Musk Deer, Med. Chir. Trans. v. xxiii. and Lancet, v. ii. 1840–41, p. 101; on the Corpuscles of the Snowy Owl and Passenger Pigeon, Proc. Zool. Soc., June 9, 1840; Corpuscles of *Crocodylidae*, *ibid.* Nov. 10, 1840; Corpuscles of Paradoxures, *ibid.* Nov. 24, 1840; Corpuscles of *Feræ*, *ibid.* May 25, 1841; Corpuscles of Marsupials, *ibid.* June 8, 1841; Corpuscles of the Ibex and of Ophidian Reptiles, *ibid.* Aug. 9, 1842; Corpuscles of *Struthionidæ*, *ibid.* Oct. 11, 1842; Additional Measurements of Blood-corpuscles, *ibid.* Dec. 13, 1842, Feb. 13 and Sept. 10, 1844; Corpuscles of the Stanley Musk Deer, *ibid.* May 9, 1843; Corpuscles of the Sloth, *ibid.* June 11, 1844; on peculiar shapes assumed by the Blood-corpuscles of Mammals, Phil. Mag., Nov. 1840; on the Buffy Coat of the Blood, Edin. Med. and Surg. Journ., No. 165.

Whale. The Napu Musk Deer has the most minute corpuscles; those of the Stanley Musk Deer are nearly as small; those of the Ibex of Candia are larger; and the next increase of size is in those of the Goat. Before my observations, the corpuscles of the last-named animal were the smallest known.

Size of the corpuscles in relation to that of the animal.—The smallest British mammal, the Harvest Mouse, has corpuscles quite as large as those of the Horse; in the Common Mouse they are larger than in the Horse or Ox. But although there is no relation between the size of the corpuscle and that of the animal in different orders, in the same order the larger species have generally larger corpuscles than the smallest species. Thus, in the large Ruminants the corpuscles are distinctly larger than in the smallest Ruminants, and the same fact is observable of the Rodents. In these examples the gradation in the size of the corpuscles may not exactly follow that of the animals, but none of the very small species have corpuscles so large as those of the largest species.

Size of the corpuscles in the same animal at different periods of life.—In very young embryos the corpuscles are much larger than in the adult, and in such embryos each corpuscle has a nucleus, which disappears at a later period of intra-uterine life, when the corpuscles are yet larger than those of the mother. At a still later period they become so unequal in size that it is difficult to say whether they be larger or smaller in the foetus than in the adult. In a kid twelve days old, bred between an ibex and a goat, I found the corpuscles larger and more variously sized than those of either of its parents.

The thickness of the corpuscles is variable; but it is commonly somewhat more than a fourth of the diameter.

Size of the corpuscles in different Orders.—The Monkeys have corpuscles pretty uniform in size, generally just perceptibly smaller than those of Man; in some of the Monkeys of the new world the corpuscles are slightly smaller than in the Monkeys of the old world, and in the Lemurs somewhat smaller still. In the corpuscles of the different subdivisions of the *Feræ* there is such a well-marked diversity of size, that the fact* might be used as a help to classification. The families, set down in the order of the size of their blood-discs, stand as follows: Seals, Dogs, Bears, Weasels, Cats, Viverras. It is commonly most easy to distinguish a viverra, by the comparatively small size of its blood-corpuscles, from a seal, dog or bear. Among genera of doubtful affinities, if regard were paid to the blood-corpuscles, the *Hyæna*† would be arranged with the *Canidæ*, *Basaris* with the *Ursidæ*, and *Cercoleptes* with the *Viverridæ*. It is curious that the Fox has slightly smaller corpuscles than the Dog. In the

* It has recently been enlisted into the service of natural history by Mr. Jesse, in his interesting *Anecdotes of Dogs*.

† It is remarkable that the extent of the streaked muscular fibre of the gullet of the *Hyæna* is the same as in the *Viverridæ*, which differ in this respect from the *Canidæ*, and still more from the *Ursidæ*. See *Proc. Zool. Soc.*, Sept. 10, 1839, and June 14, 1842. It would be interesting to examine the œsophageal muscular sheath of the Kinkajou.

Ruminants the smallest corpuscles are found ; yet some of the largest species have corpuscles larger than those of many Carnivora, and of the Horse. The *Camelidæ* are the only mammals with oval blood-discs, like those of the lower Vertebrata in shape, but uniformly smaller ; and in structure the corpuscle of the Camels is exactly the same as the corpuscle of other Mammalia, being destitute of a nucleus corresponding to that which is so obvious in the corpuscle of lower animals. Among the Rodents, the corpuscles of the Capybara are as large or slightly larger than those of Man ; the Harvest Mouse has smaller corpuscles than any other Rodent, and in the order generally their size is about the same as in the Lemurs. Of the Edentata, the Two-toed Sloth has the largest corpuscles, after those of the Elephant, of any mammal ; those of the Armadillo are about the same in size as those of the Monkeys. The corpuscles of the Marsupialia agree generally in form and size with the corpuscles of the corresponding placental mammals. In the Monotremata, according to the observations of Dr. Davy, Dr. Hobson, and Dr. E. Bedford, the corpuscles are of the same form and about the same size as in Man. An examination which I made of the corpuscles of the Echidna was to the same effect, but I had not an opportunity of applying a micrometer to them.

OVIPAROUS VERTEBRATA.

In birds and reptiles, with a few exceptions, the corpuscles are oval, the long diameter being commonly rather less than twice the short diameter. These proportions used to be considered as universal, but they are not so ; for the long diameter of the corpuscles of birds and reptiles may either be nearly thrice or scarcely one and a half of the short diameter ; and it is remarkable that these differences of form are occasionally presented in the corpuscles of nearly allied genera, as more particularly explained in the Proc. Zool. Soc. 1840, pp. 43 and 132 ; and 1842, p. 110. In osseous fishes, as Professor Wagner has noticed, the corpuscles are generally not much longer than broad ; I commonly found a few among them of a circular shape, and he observed the majority of them of this figure in the blood of the Cyclostomes. In some species of other orders the corpuscles are about twice the length of their breadth ; in the Pike they are somewhat angular and pointed at the ends ; and on the whole the corpuscles of fishes are extremely variable in shape. The diameter of the circular corpuscles of mammals is very frequently about the same as the short diameter of birds' corpuscles. They are largest in the Amphibia generally ; and largest of all in the Amphibia with permanent gills, as discovered some years ago by Professor Wagner. My measurements of the corpuscles of the Siren agree with his view.

Nucleus.—This exists permanently in the blood-corpuscle of the lower Vertebrata, but only for a short time in that of mammals, not excepting even the *Camelidæ*. It is only during the earlier period of intra-uterine life that the corpuscle of mammals has a nucleus corresponding to the permanent one in the corpuscle of lower animals. In birds, the nucleus, when exposed by a weak acid, is commonly longer in proportion to its breadth than the envelope ; but there are some

exceptions, and the nucleus becomes globular or nearly so when in contact with water. In the blood-corpuscle of mammals the central spot, so often mistaken for a nucleus, is not visible in the best focus and light; then if the object-glass be so slightly removed from the corpuscles as not to destroy their clear contour, a dark spot appears in their centre; if the glass be next so far moved towards the corpuscles as to place them slightly within the focus, the dark spot will become bright; and when altogether invisible in a bright light, the spot may be instantly brought into view simply by diminishing the light.

Note.—The following measurements are all in vulgar fractions of an English inch; but for the sake of convenience, the numerator is omitted throughout, as it is invariably 1, and the denominators only are printed. The measurements of the blood-discs are given as they lie flat, unless when a T indicates a measurement of their thickness. By L.D. the long diameter and by S.D. the short diameter is denoted. The measurements refer exclusively to average sizes. The nuclei were measured after exposing them by the action of dilute acetic acid on the envelopes.

MAMMALIA.

| | | | |
|-------------------------------|------|---------------------------|------|
| Homo | 3200 | Ateles ater | 3602 |
| T... 12400 | | — Belzebuth | 3589 |
| SIMIÆ CATARRHINI. | | Cebus Apella | 3467 |
| Simia Troglodytes | 3412 | — capucinus | 3454 |
| Pithecius Satyrus | 3383 | Callithrix sciureus | 3713 |
| Hylobates Hoolock | 3368 | Jaechus vulgaris | 3624 |
| — leucogenys | 3425 | Midas Rosalia | 3510 |
| — Rafflesii | 3539 | LEMURIDÆ. | |
| Semnopithecus Maurus | 3515 | Lemur albifrons | 3976 |
| Cercopithecus Mona | 3468 | — Catta | 3892 |
| — sabæus | 3342 | — Anjuanensis | 4003 |
| — fuliginosus | 3530 | — nigrifrons | 4440 |
| — ruber | 3395 | Loris tardigradus | 3691 |
| — pileatus | 3578 | — gracilis | 3461 |
| — pygerythrus | 3401 | CHEIROPTERA. | |
| — Petaurista | 3478 | Vespertilio murinus | 4175 |
| — griseo-viridis | 3429 | — noctula | 4404 |
| — Æthiops | 3454 | — Pipistrellus | 4324 |
| Macacus radiatus | 3563 | Plecotus auritus | 4465 |
| — Rhesus | 3429 | INSECTIVORA. | |
| — niger | 3583 | Talpa Europæa | 4747 |
| — cynomolgus | 3429 | Erinaceus Europæus | 4085 |
| — Silenus | 3430 | Sorex tetragonurus | 4571 |
| — nemestrinus | 3493 | PLANTIGRADA. | |
| — sylvanus | 3338 | Meles vulgaris | 3940 |
| — melanotus | 3389 | Arctonyx collaris | 3609 |
| Cynocephalus Anubis | 3461 | | |
| — leucophæus | 3555 | | |
| SIMIÆ PLATYRRHINI. | | | |
| Ateles subpentadactylus | 3620 | | |

MAMMALIA—(continued).

| | | | |
|---------------------------------|------------|------------------------------|------------|
| Ursus maritimus | 3870 | | |
| — Arctos | 3723 | | |
| — Americanus | 3693 | | |
| — Americanus, var. | 3782 | | |
| — ferox | 3530 | | |
| — labiatus | 3728 | | |
| Helarctos Malayanus | 3562 | | |
| Mellivora Capensis | 3824 | | |
| Procyon lotor | 3950 | | |
| Nasua fusca | 3789 | | |
| — rufa | 3878 | | |
| Basaris astuta | 4033 | | |
| Cercoleptes caudivolvulus | 4573 | | |
| CARNIVORA. | | | |
| Paradoxurus leucomystax | 4236 | | |
| — Bondar | 5693 | | |
| — binotatus | 4660 | | |
| — Pallasii | 5485 | | |
| Canis familiaris | 3542 | | |
| — Dingo | 3395 | | |
| — Vulpes | 4117 | | |
| — fulvus | 3920 | | |
| — argentatus | 3888 | | |
| — cinereo-argenteus | 3761 | | |
| — lagopus | 3888 | | |
| — aureus | 3860 | | |
| | T... 14000 | | |
| — mesomelas | 3645 | | |
| — Lupus | 3625 | | |
| Lycaon tricolor | 3801 | | |
| Hyæna vulgaris | 3735 | | |
| — crocuta | 3820 | | |
| Herpestes griseus | 4662 | | |
| — Javanicus? | 4790 | | |
| — Smithii | 4466 | | |
| Viverra Civetta | 4274 | | |
| — tigrina | 5365 | | |
| Felis Leo | 4322 | | |
| — concolor | 4465 | | |
| — unicolor | 4481 | | |
| — Tigris | 4206 | | |
| — Leopardus | 4319 | | |
| — jubata | 4220 | | |
| — pardalis | 4616 | | |
| — domestica | 4404 | | |
| — Bengalensis | 4419 | | |
| — Caracal | 4684 | | |
| — cervaria | 4220 | | |
| — Serval | 4129 | | |
| Galictis vittata | 4175 | | |
| Mustela Zorilla | 4270 | | |
| — Furo | 4134 | | |
| — vulgaris | 4205 | | |
| — Putorius | 4167 | | |
| Lutra vulgaris | 3502 | | |
| Phoca vitulina | 3281 | | |
| | | CETACEA. | |
| | | Delphinus Phocæna | 3829 |
| | | Balæna Boops | 3099 |
| | | PACHYDERMATA. | |
| | | Sus Scrofa | 4230 |
| | | — Babyroussa | 4316 |
| | | Dicotyles torquatus | 4490 |
| | | Tapirus Indicus | 4000 |
| | | Elephas Indicus | 2745 |
| | | Rhinoceros Indicus | 3765 |
| | | Equus Caballus | 4706 |
| | | | T... 13422 |
| | | — Asinus | 4000 |
| | | — Burchellii | 4360 |
| | | — Hemionus | 4421 |
| | | RUMINANTIA. | |
| | | Camelus Dromedarius... | L.D. 3254 |
| | | | S.D. 5921 |
| | | | T... 15337 |
| | | — Bactrianus | L.D. 3123 |
| | | | S.D. 5876 |
| | | | T... 15210 |
| | | Auchenia Vicugna | L.D. 3555 |
| | | | S.D. 6444 |
| | | — Paco | L.D. 3361 |
| | | | S.D. 6294 |
| | | — Glama | ibid. |
| | | Moschus Javanicus | 12325 |
| | | — Stanleyanus | 10825 |
| | | Cervus Wapiti | 4138 |
| | | — Hippelaphus | 3777 |
| | | — Axis | 5088 |
| | | — Dama | 4515 |
| | | — Alces | 3938 |
| | | — Barbarus | 4800 |
| | | — Elaphus | 4324 |
| | | — macrourus? | 5074 |
| | | — Mexicanus | 5175 |
| | | — Marhal | 4978 |
| | | — porcinus | 5391 |
| | | — Reevesii | 6330 |
| | | — Capreolus | 5184 |
| | | — Virginianus | 5036 |
| | | Camelopardalis Giraffa | 4571 |
| | | Antilope Cervicapra | 5108 |
| | | — Dorcas | 4922 |
| | | | T... 16000 |
| | | — Gnu | 4800 |
| | | — Sing-Sing | 5150 |
| | | — Philantomba | 5116 |
| | | — picta | 4875 |
| | | — Bubalis | 5600 |
| | | Capra Caucasica | 7045 |
| | | — Hircus | 6366 |

MAMMALIA—(continued).

| | | | |
|----------------------------|------|------------------------------|------|
| Capra Hircus, var. | 6430 | Synetheris prehensilis | 3444 |
| Ovis Musmon | 5045 | Capromys Fournieri | 3483 |
| — Aries | 5300 | Myopotamus Coypus | 3355 |
| — Tragelaphus | 6355 | T... 10667 | |
| Bos Taurus | 4267 | Castor Fiber | 3325 |
| — Taurus, var. | 4571 | Cavia Cobaya | 3538 |
| — Bison | 4062 | Dasyprocta aurata | 3857 |
| — Bubalus | 4586 | — Acouchi | 3777 |
| T... 14000 | | Cœlogenys subniger | 3481 |
| — Caffre | 4703 | Hydrochærus Capybara | 3190 |
| — frontalis | 4299 | Lepus cuniculus | 3607 |
| — Sylhetanus | 4222 | Lepus timidus | 3560 |
| RODENTIA. | | EDENTATA. | |
| Pteromys nitidus | 3777 | Bradypus didactylus | 2865 |
| — volucella | 3892 | Dasybus sex-cinctus | 3457 |
| Sciurus vulgaris | 4000 | — villosus | 3315 |
| — niger ? | 3841 | MARSUPIATA. | |
| — maximus | 3633 | Didelphis Virginiana | 3557 |
| — cinereus | 4000 | T... 12000 | |
| — capistratus | 3930 | Dasyurus viverrinus | 4056 |
| — Palmarum | 3847 | — Maugei | 4034 |
| — Listeri | 3948 | — ursinus | 3534 |
| Arctomys ? pruinosus | 3484 | T... 10910 | |
| — Empetra | 3503 | Perameles Lagotis | 3902 |
| Dipus Ægyptius | 4172 | Hypsiprymnus setosus | 4000 |
| Mus giganteus | 3892 | Macropus Bennetti | 3535 |
| — decumanus | 3911 | — ocydromus | 3442 |
| — Rattus | 3754 | — Derbyanus ? | 3405 |
| — musculus | 3814 | T... 10910 | |
| — sylvaticus | 3839 | Halmaturus Billardieri | 3623 |
| — messorius | 4268 | Phalangista vulpina | 3617 |
| — Alexandrinus | 3900 | — nana | 3856 |
| Arvicola amphibia | 3790 | — fuliginosa | 3688 |
| — riparia | 4199 | Petaurista sciureus | 3661 |
| Ondatra Zibethica | 3550 | Phascalomys Wombat | 3456 |
| Hystrix cristata | 3369 | | |
| Erithizon dorsatum | 3380 | | |

AVES.

| RAPACES. | | L.D. | S.D. | | | L.D. | S.D. |
|-----------------------------|------|-------|---------------------------|------|------|------|------|
| Gypaëtus barbatus | 1913 | 3425 | Buteo vulgaris | 1852 | 3691 | | |
| Cathartes Iota | 1880 | 3691 | — Lagopus | 1852 | 3691 | | |
| Sarcorhamphus Gryphus | 1761 | 3892 | Aquila chrysaëtos | 1812 | 3832 | | |
| — Papa | 1825 | 3600 | — Bonelli | 1866 | 3598 | | |
| Vultur auricularis | 1835 | 3461 | — fucosa | 1852 | 3485 | | |
| — Nuclei ... | 4000 | 10666 | — choka | 1830 | 3691 | | |
| — fulvus | 1829 | 3399 | Helotarsus typicus | 1891 | 3461 | | |
| T. 9600 | | | Haliaëtus albicilla | 1829 | 3390 | | |
| — Kolbii | 1794 | 3337 | — leucocephalus | 1909 | 3390 | | |
| — leuconotus | 1806 | 3425 | — Aguia | 1806 | 3585 | | |
| — Angolensis | 1684 | 3166 | Falco Peregrinus | 1916 | 3862 | | |
| Polyborus vulgaris | 1829 | 3572 | — Timunculus | 1891 | 3490 | | |

AVES—(continued).

| | L.D. | S.D. | | L.D. | S.D. |
|---------------------------------------|------|-------|---------------------------|-------|-------|
| Falco subbuteo | 1827 | 3507 | Turdus canorus | 2305 | 3892 |
| Milvus vulgaris | 1931 | 3677 | Merula vulgaris | 2097 | 4256 |
| Gypogeranus serpen- } tarius | 1722 | 3301 | Orpheus polyglottis | 2223 | 3732 |
| Surnia Nyctea | 1555 | 4042 | — rufus | 2231 | 3646 |
| Nuclei ... | 3200 | 10666 | Muscicapa grisola | 2179 | 4173 |
| Otus brachyotus | 1763 | 4076 | Lanius excubitor | 1989 | 5325 |
| Bubo maximus | 1720 | 3566 | Vanga destructor | 2019 | 3892 |
| Bubo Virginianus | 1837 | 4000 | | | |
| Syrnium Aluco | 1930 | 3801 | GRANIVORÆ. | | |
| Strix flammea | 1882 | 3740 | Dolichonyx oryzivorus . | 2400 | 4167 |
| Nuclei ... | 4000 | 10666 | Ploceus textor | 2213 | 4575 |
| OMNIVORÆ. | | | Cardinalis Dominicana... | 2140 | 3643 |
| Cracticus hypoleucus ... | 2116 | 4000 | — cucullata | ibid. | ibid. |
| Barita Tibicen | 2118 | 3892 | Amadina fasciata | 2001 | 4364 |
| Garrulus pileatus | 2041 | 4167 | — punctularia | 2133 | 4133 |
| — glandarius | 2064 | 3878 | Pyrgita domestica | 2140 | 3500 |
| Nuclei ... | 4000 | 10666 | Nuclei ... | 4364 | 9200 |
| — cristatus | 2041 | 3512 | — simplex | 2273 | 4000 |
| Nucifraga Caryocatactes | 1875 | 4172 | Fringilla Cœlebs | 2253 | 4133 |
| Corvus corax | 1961 | 4000 | — Chloris | 2232 | 3600 |
| — frugilegus | 1894 | 3196 | — amandava | 2243 | 4800 |
| Nuclei ... | 4572 | 9140 | — cyanea | 2144 | 3741 |
| — monedula | 2243 | 4167 | Linaria minor | 2416 | 4848 |
| Nuclei ... | 4000 | 10665 | Parus cæruleus | 2313 | 4128 |
| — Pica | 1953 | 3365 | — caudatus | 2136 | 4570 |
| T. 11600 | | | Nuclei ... | 4800 | 10666 |
| Nuclei ... | 4245 | 11138 | — major | 2133 | 3892 |
| Gracula religiosa | 2075 | 4167 | Alauda arvensis | 2125 | 4128 |
| Fregilus graculus | 2106 | 4505 | Nuclei ... | 4000 | 12000 |
| Pastor roseus | 2106 | 4630 | Emberiza citrinella | 2286 | 4000 |
| — cristatellus | 2133 | 4050 | Nuclei ... | 4000 | 12000 |
| — tristis | 1993 | 4167 | — cristata | 2310 | 4167 |
| Sturnus vulgaris | 2115 | 3892 | Plectrophanes nivalis ... | 2133 | 4740 |
| Nuclei ... | 3764 | 11333 | Loxia coccothraustes ... | 2042 | 3790 |
| — predatorius | 2133 | 4175 | T. 9141 | | |
| Coracias garrula | 2000 | 3478 | Nuclei ... | 4570 | 10666 |
| Molothrus sericeus | 2133 | 4567 | — curvirostra | 2365 | 4000 |
| Buceros Rhinoceros ? ... | 1690 | 3230 | — enucleator | 2247 | 4083 |
| INSECTIVORES. | | | — Javensis | 2286 | 3677 |
| Troglodytes Europæus... | 2359 | 4133 | — Astrild | 2273 | 4740 |
| Regulus cristatus | 2284 | 4133 | — cærulea | 2290 | 3740 |
| Motacilla alba | 2182 | 3600 | — Malacca | 2359 | 4167 |
| Nuclei ... | 4000 | 10666 | Vidua paradisæa | 1998 | 3740 |
| Sylvia Phragmites | 2003 | 3550 | Nuclei ... | 3555 | 10666 |
| Philomela lusciniæ | 1895 | 4400 | ZYGODACTYLI. | | |
| Nuclei ... | 4000 | 12000 | Corythaix Buffonii | 1902 | 3764 |
| Curruca atricapilla | 2359 | 4133 | Cuculus canorus | 2028 | 3600 |
| Erythaca rubecula | 2305 | 4133 | Plyctolophus Eos | 1981 | 3728 |
| Accentor modularis | 2342 | 4000 | — sulphureus | 2203 | 3399 |
| Turdus viscivorus | 2247 | 4000 | — rosaceus | 1842 | 3547 |
| — musicus | 2203 | 4133 | Nuclei ... | 4000 | 12000 |
| — migratorius | 2548 | 4133 | — galeritus | 1880 | 3600 |
| | | | — Philippinorum ... | 1974 | 4041 |
| | | | Macrocerus Aracanga... | 1902 | 4041 |

AVES—(continued).

| | L.D. | S.D. | | L.D. | S.D. |
|--|------|-------|---------------------------|-------|-------|
| | | | CHELIONES. | | |
| Macrocerus Illigeri ... | 1924 | 4335 | Hirundo rustica | 2133 | 4000 |
| — Ararauna | 1961 | 4128 | — urbica... .. | 2170 | 4000 |
| — Macao | 1902 | 4762 | Cypselus Apus | 1982 | 3850 |
| — severus | 2165 | 3801 | Nuclei ... | 4000 | 10666 |
| Platycercus Pennantii ... | 2106 | 3931 | COLUMBÆ. | | |
| — Pacificus | 2118 | 4174 | Columba Palumbus | 1973 | 3643 |
| — eximius | 2193 | 3892 | — risoria | 2133 | 3523 |
| — flaviventris | 2118 | 3892 | — Turtur | 2005 | 3369 |
| — Vasa | 2045 | 3892 | — tigrina | 2088 | 3615 |
| — scapulatus | 2000 | 4042 | — rufina | 2314 | 3429 |
| — niger | 2133 | 3892 | — chalconptera | 2208 | 4062 |
| Nymphicus Novæ-Hol- } landiæ | 2160 | 4174 | — Nicobarica | 2133 | 3692 |
| Psittacara leptorhyncha . | 2067 | 3931 | — Guinea | 2165 | 3839 |
| — murina | 2133 | 4031 | — Corensis | 2193 | 3643 |
| — Patachonica | 2115 | 3977 | — aurita | 2422 | 3519 |
| — viridissima | 2029 | 4190 | — montana | 2239 | 3692 |
| — solstitialis | 2133 | 4000 | Nuclei ... | 5333 | 12000 |
| — virescens | 2097 | 4175 | — Zenaida | 2203 | 3571 |
| Trichoglossus capistratus | 2203 | 3892 | — migratoria | 1909 | 4626 |
| Palæornis Alexandri ... | 2115 | 3892 | — coronata | 1954 | 3491 |
| — torquatus | 2174 | 3892 | — leucocephala | 2132 | 3646 |
| — Bengalensis | 2278 | 4000 | — mysticea | 2100 | 3512 |
| Lorius domicellus | 2093 | 4133 | GALLINÆ. | | |
| — Ceramensis | 2115 | 4000 | Penelope leucolophos ... | 1902 | 3607 |
| — Amboinensis | 2045 | 4133 | Nuclei ... | 3555 | 9166 |
| — coccineus | 2165 | 4000 | — cristata | ibid. | ibid. |
| — Sinensis | 2115 | 3692 | Crax globicera | 1985 | 3425 |
| Tanygnathus macro- } rhynchus | 2106 | 3829 | — rubra | 1993 | 3664 |
| Psittacus erythacus | 1898 | 4000 | — Yarrellii | 2000 | 3456 |
| — albifrons | 1931 | 3692 | Ourax Mitu | 2005 | 3490 |
| — Augustus | 2085 | 3600 | Pavo cristatus | 1835 | 3589 |
| — Americanus | 2115 | 3600 | — muticus | ibid. | ibid. |
| — Regulus | 2037 | 3764 | — Javanicus | 1884 | 3491 |
| — Dufresnii | 2278 | 3374 | Phasianus pictus | 2213 | 3615 |
| — Amazonicus | 1800 | 3832 | — nycthemerus | 1887 | 3470 |
| — leucocephalus | 2050 | 3727 | Nuclei ... | 4000 | 8000 |
| — badiceps | 2165 | 3617 | — superbus | 2128 | 3587 |
| — menstruus | 2115 | 3708 | — lineatus | 1855 | 3348 |
| — melanocephalus ... | 2005 | 3892 | Nuclei ... | 4570 | 9166 |
| — mitratus | 2029 | 3892 | — Colchicus | 2168 | 3646 |
| Psittacula cana | 2101 | 4174 | Nuclei ... | 5647 | 7111 |
| — pullaria | 2097 | 4174 | Gallus domesticus | 2102 | 3466 |
| Picus minor | 2170 | 3892 | Nuclei ... | 6000 | 9140 |
| ANISODACTYLI. | | | Meleagris gallapavo ... | 2045 | 3598 |
| Sitta Europæa | 2213 | 4188 | Numida Rendallii | 2054 | 4415 |
| Nuclei ... | 4572 | 11000 | Francolinus vulgaris ... | 2106 | 4041 |
| Certhia familiaris | 2305 | 4000 | Perdix longirostris | 2054 | 3801 |
| ALCYONES. | | | — Bonhami | 1933 | 3282 |
| Dacelo gigantea | 2110 | 3555 | Nuclei ... | 4570 | 10666 |
| Alcedo Ispida | 2124 | 3693 | Coturnix Argoondah ... | 2347 | 3470 |
| | | | Ortyx Virginianus | 2213 | 4000 |
| | | | — neoxyenus | 2305 | 3836 |

AVES—(continued).

| | L.D. | S.D. | | L.D. | S.D. |
|----------------------------------|------|------|-----------------------------------|-------|-------|
| Tetrao urogallus | 2248 | 3836 | Ciconia Argala..... | 1728 | 3555 |
| — Tetrix | 2376 | 3728 | — Marabou | 1859 | 3460 |
| — Caucasica | 1923 | 3456 | Ibis ruber | 1948 | 3153 |
| Nuclei ... | 4570 | 9166 | Numenius Phæopus ... | 1846 | 4465 |
| Tinamus rufescens | 1752 | 3338 | Limosa melanura | 1973 | 3764 |
| ALECTORIDES. | | | Scolopax Gallinago | 2170 | 3622 |
| Dicholophus cristatus ... | 1884 | 3364 | Rallus Philippinensis ... | 2997 | 3389 |
| CURSORES. | | | Gallinula chloropus | 2055 | 3839 |
| Struthio Camelus..... | 1649 | 3000 | PINNATIPEDES. | | |
| T. 9166 | | | Podiceps minor | 2001 | 3200 |
| Nuclei ... | 3200 | 9166 | PALMIPEDES. | | |
| Dromaius Novæ-Hol-landiæ } | 1690 | 3031 | Plectropterus Gambiensis | 1866 | 3728 |
| Rhea Americana | 1898 | 3273 | Chenalopex Ægyptiaca . | 1866 | 3839 |
| GRALLATORES. | | | Cereopsis Novæ-Hol-landiæ } | 1722 | 3692 |
| Edicnemus crepitans ... | 2157 | 4000 | Bernicla Sandvicensis ... | 1866 | 3839 |
| Vanellus cristatus | 1964 | 3310 | — Magellanica | ibid. | ibid. |
| Hæmatopus Ostralegus . | 1895 | 4000 | Cygnus atratus | 1806 | 3692 |
| Nuclei ... | 3200 | 9000 | Dendrocygna viduata ... | 1789 | 3555 |
| Psophia crepitans | 1883 | 3488 | — autumnalis | 1916 | 3764 |
| Anthropoides Virgo..... | 1884 | 3740 | — arborea | 1931 | 3724 |
| T. 11230 | | | Dendronessa sponsa ... | 2001 | 4079 |
| — Stanleyanus | 1909 | 3529 | Tadorna vulpanser | 1925 | 3839 |
| Balearica pavonina | 1859 | 3777 | Mareca Penelope | 1873 | 4385 |
| T. 9597 | | | Querquedula crecca..... | 2062 | 4592 |
| Nuclei ... | 4000 | 9750 | — acuta | 1993 | 3839 |
| — Regulorum | 1858 | 3478 | — circia | 2088 | 3839 |
| Ardea cinerea | 1913 | 3491 | Anas galericulata | 1937 | 3424 |
| — Nycticorax | 1780 | 3555 | Larus ridibundus | 2097 | 4000 |
| — minuta | 1993 | 3827 | — canus | 1973 | 3839 |
| Platalea leucorodia | 1859 | 3600 | Nuclei ... | 3555 | 10666 |
| Ciconia alba | 1755 | 3439 | Pelecanus Onocrotalus... | 1777 | 3369 |
| — nigra | 1806 | 3403 | Nuclei ... | 3200 | 9600 |
| | | | Phalacrocorax Carbo ... | 2005 | 3765 |

REPTILIA.

| | L.D. | S.D. | | L.D. | S.D. |
|-------------------------|------|------|-----------------------|------|------|
| Chelonia Mydas | 1231 | 1882 | Lacerta viridis | 1555 | 2743 |
| Nuclei ... | 4000 | 6000 | Anguis fragilis | 1178 | 2666 |
| Testudo Græca | 1252 | 2216 | Natrix torquata | 1371 | 2157 |
| — radiata | 1241 | 2197 | T. 8341 | | |
| Alligator — ? | 1324 | 2122 | Nuclei ... | 3835 | 6817 |
| Crocodylus acutus | 1231 | 2286 | Coluber Berus | 1274 | 1800 |
| T. 8000 | | | Nuclei ... | 3227 | 4986 |
| — Lucius? | 1124 | 2215 | Python Tigris | 1440 | 2400 |
| Champsia fissipes | 1259 | 2315 | Nuclei ... | 3555 | 7468 |
| Iguana Cyclura | 1230 | 2285 | | | |
| Nuclei ... | 5333 | 6400 | | | |

AMPHIBIA.

| | L.D. | S.D. | | L.D. | S.D. |
|-----------------------|------|------|---------------------------|--------------|--------------|
| Rana temporaria | 1108 | 1821 | Triton Bibronii | 848 | 1311 |
| T. 7112 | | | Nuclei ... | 1901 | 3000 |
| Nuclei ... | 3114 | 6297 | — cristatus | <i>ibid.</i> | <i>ibid.</i> |
| Bufo vulgaris | 1043 | 2000 | Lissotriton punctatus ... | 814 | 1746 |
| T. 5625 | | | Nuclei ... | 1778 | 2667 |
| Nuclei ... | 2802 | 5261 | Siren lacertina .. | 435 | 800 |
| | | | Nuclei ... | 1142 | 2007 |

PISCES.

| | L.D. | S.D. | | L.D. | S.D. |
|-------------------------|------|------|-------------------------|------|-------|
| Perca fluviatilis | 2099 | 2824 | Cyprinus auratus | 1777 | 2824 |
| T. 8000 | | | T. 10666 | | |
| Nuclei ... | 7482 | 8830 | Nuclei ... | 4570 | 8000 |
| — Cernua | 2461 | 3000 | — Erythrophthalmus. | 2000 | 3200 |
| Nuclei ... | 6000 | 8000 | — Phoxinus | 2000 | 2900 |
| Cottus Gobio | 2000 | 2900 | Esox Lucius | 2000 | 3555 |
| T. 8000 | | | Nuclei ... | 5333 | 8000 |
| Cyprinus Carpio | 2142 | 3429 | Anguilla vulgaris | 1745 | 2842 |
| T. 8000 | | | T. 8000 | | |
| Nuclei ... | 6400 | 8000 | Nuclei ... | 7500 | 10000 |
| — Tinca | 2286 | 2722 | Gymnotus electricus ... | 1745 | 2599 |
| T. 8830 | | | | | |
| Nuclei ... | 8500 | 9600 | | | |

The following extract was read from a letter, dated Madeira, August 18, 1845, received from the Society's Corresponding Member, the Rev. R. T. Lowe:—

"The Rev. R. T. Lowe has the pleasure of adding to the Society's collection a fine specimen of a new *Zeus* (*Zeus conchifer*, Lowe) of the greatest rarity; the present being the second example only which has hitherto occurred."

The specimen was exhibited to the Meeting.

"On the genus *Anous*, Leach (*Megalopterus*, Boie)." By John Gould, Esq., F.R.S. &c.

There is no family of birds more generally diffused over the globe than the Terns, and certainly no group of the Natatorial Order less understood, or which would more amply reward the studious investigation of the scientific ornithologist. The present short paper is limited to some species of the genus *Anous*, for the purpose of describing three or four new ones, rather than aiming at anything like a complete monograph of even this little group. It will not, however, detract from the interest of the paper if I give a list of the species with which I am familiar, and reserve to some future time the completion of the subject. Upon the present occasion I shall exhibit five well-defined species; a sixth, of which I am not aware that an example exists in the museums of this country, is figured in the 'Planches Coloriées' of M. Temminck. They are—

1. *ANOUS STOLIDUS*: *Sterna stolidus*, Linn.; *Gavia fusca*, Brehm; *Anous niger*, Steph.
2. *ANOUS LEUCOCAPILLUS*, nov. sp. *A. vertice et nucha albis; loribus, et partibus circumocularibus, intense nigris; omni inferiore corpore alisque fuliginosis, necnon occipite, dorso, et cauda, sed cinereo tinctis.*

Crown of the head and nape of the neck white; lores and space surrounding the eye deep black; near the posterior angle of the upper and lower eyelids a small patch of white; breast, all the under surface and the wings deep sooty black; back of the neck, back and tail the same, slightly tinged with ash; bill black; feet brownish black.

Total length, 14 inches; bill, $2\frac{1}{4}$; wing, 9; tail, 5; tarsi, $\frac{7}{8}$; middle toe and nail, $1\frac{1}{2}$.

Hab. North coasts of Australia.

3. *ANOUS MELANOPS*, nov. sp. *A. vertice et nucha pallide cinereis; dorso saturate griseo; macula ante oculum, alteraque minore post oculum intense nigris.*

Crown of the head and back of the neck light ash-colour, passing into deep grey on the mantle and back; immediately before the eyes a large patch, and behind a smaller one, of jet-black; posterior half of the lower and a smaller space on the upper lash snow-white; throat, fore-part of the neck and all the under surface deep sooty black; wings and all the upper surface of the same colour, but rather browner; bill black; tarsi and toes brownish black.

Total length, 12 to 13 inches; bill, $2\frac{1}{4}$; wing, $8\frac{3}{4}$; tail, 5; tarsi, $\frac{7}{8}$; middle toe and nail, $1\frac{1}{2}$.

Hab. Very abundant during the breeding season on the Houtman's Abrolhos, off the western coast of Australia.

Remark.—This species, although very nearly allied to, is distinct from the *Anous tenuirostris* (*Sterna tenuirostris*, Temm.) of Western Africa, from which it may at once be distinguished by the black marks before and behind the eye, of which no trace is represented in M. Temminck's figure in the 'Planches Coloriées'; neither is this conspicuous mark alluded to in his description. It is just possible that this may be the species described by M. de la Fresnaye in Guérin's Magazine, under the generic name of *Procellosterna*.

4. *ANOUS TENUIROSTRIS*: *Sterna tenuirostris*, Temm. Pl. Col. 202.

5. *ANOUS CINEREUS*, nov. sp. *A. capite, collo, et corpore inferiore argentato-albis; parva plumarum lineâ oculum circumeunte nigra ad rostrum, ad nucham alba; dorso, alis, caudique late griseis; secundariis ad apices albis.*

Head, neck and all the under surface silvery greyish white; round the eye a narrow ring of feathers, the anterior half of which is deep black and the posterior half white; back, wings and tail light grey; secondaries tipped with white; bill black; tarsi and toes brownish black; interdigital membrane yellowish.

Total length, 11 inches; bill, $1\frac{1}{2}$; wing, 8; tail, 5; tarsi, $1\frac{1}{2}$; middle toe and nail, $1\frac{3}{4}$.

Hab. The north-eastern coasts of Australia.

Syn. *Pelecanopus pelecunoides*, Brit. Mus. Coll. Part iii. p. 180.

6. *ANOUS PARVULUS*. *A. toto corpore cinereo-griseis; parva plumarum annulo oculum cingente, parte anteriore nigra, posteriore alba.*

The whole of the plumage ashy grey, being somewhat lighter on the head and neck than on the other parts of the plumage; round the eye a narrow ring of feathers, the anterior half of which is black and the posterior half white; bill black; tarsi and toes brown.

Total length, $9\frac{1}{2}$ inches; bill, $1\frac{1}{4}$; wing, $6\frac{1}{2}$; tail, $4\frac{1}{4}$; tarsi, $\frac{7}{8}$; middle toe and nail, $1\frac{1}{4}$.

A single specimen forms part of the collection of the Zoological Society, to whom it was presented by F. Debell Bennett, Esq., who procured it at Christmas Island, in the South Seas. It may be distinguished from all the other species by its small size and delicately-formed bill.

Mr. Gould then exhibited two new birds from New South Wales:

PODARGUS PLUMIFERUS. *Pod. plumis nares tegentibus, quæ sunt in cristæ formâ erectæ, nigro-fusco et albo alternatim fasciatis; mediâ gulari et pectore brunnæo-albis, fusco minute maculatis, nec aliter colli pectorisque lateribus, nec corpore subtis, nisi singulis plumis lineâ saturatâ fusca in medio, et duabus maculis quadratis ad apicem, ornatis.*

Feathers covering the nostrils, which are erected into a tuft, alternately banded with blackish brown and white; all the upper surface mottled brown, black and brownish white, the latter predominating over each eye, where it forms a conspicuous patch; the markings are of a similar but of a larger kind on the wings, and on the primaries

and secondaries assume the form of bars; tail similar but paler, and with the barred form of the markings still more distinct; centre of the throat and chest brownish white, minutely freckled with brown; sides of the neck and breast and all the under surface similar, but with a dark line of brown down the centre and two large nearly square-shaped spots of brownish white near the tip of each feather; bill and feet horn-colour.

Total length, 20 inches; bill, $2\frac{3}{8}$; wing, $9\frac{1}{2}$; tail, 10; tarsi, 1.

In another specimen the markings are altogether of a much darker hue, particularly on the under surface, where the light markings are less distinct and more chestnut.

Hab. The brushes of the Clarence and MacLeay rivers of New South Wales.

Remark.—This species differs from all its Australian allies by the more lengthened form of the tail and the conspicuous tuft of feathers which spring from the fore-part of the head, and it is from this character the specific name has been taken.

PLATYCERCUS SPLENDIDUS. *Plat. capite, colli lateribus, et medio pectore, coccineis; genis albis; dorso inferiore, et tectricibus caudæ superioribus pallide viridibus; lateribus pectoris, et abdomine splendide flavis; crisso pallide viridi.*

Head, sides of the neck and centre of the breast scarlet; cheeks white, faintly tinged with blue; feathers of the back and scapularies black, broadly margined with gamboge-yellow; lower part of the back and upper tail-coverts pale green; on the shoulder a patch of black; wing-coverts pale blue; primaries black, with the exception of the basal portion of the external web, which is rich deep blue; two central tail-feathers dark green at the base, passing into deep blue on the apical half of the external web, and tipped with black; the next on each side is black on the internal web, green at the base of the external web, blue for the remainder of its length, and slightly tipped with white; the remainder of the tail-feathers are deep blue at the base of the external, and black at the base of the internal web, the remaining portion of both webs being pale delicate blue, passing into white at the tip; sides of the breast and the abdomen bright gamboge-yellow; vent pale green in some, in others pale bluish green; under tail-coverts scarlet; irides dark brown; bill horn-colour; feet mealy brown.

Total length, 12 inches; bill, $\frac{5}{8}$; wing, 6; tail, 7; tarsi, $\frac{3}{4}$.

Another specimen, probably immature, has the general colour similar, but has the head and breast pale yellow, interspersed with scarlet feathers.

Hab. Darling Downs, New South Wales.

Remark.—Very nearly allied to, but a more beautiful species than, the *Platycercus eximius*, from which it differs in the extent of the scarlet on the breast, which in this species merely occupies the centre, while in the former it forms a broad band across the breast; the rump also is of a paler green.

“A Description of new species of *Ostrea*, in the collection of H. Cuming, Esq.,” by Sylvanus Hanley, Esq., was then read:—

OSTREA CHEMNITZII. *Ost. testâ obovali, plerumque sinistrorsâ, valde compressâ, solidâ, nitidâ, luteâ aut sordide rubro-purpurascente, subtuberosâ, nonnunquam paululum subvesiculosâ, nullis lamellis asperatâ; margine plicato, intusque persæpe scabro; plicis plerumque parvis; superficie internâ albedo-virescente; cicatrice satis magnâ, subreniformi.* Long. 3 poll.

Hab. China? Mus. Cuming, Hanley, &c.

A species which is closely allied to *rosacea*, with a peculiar resinous gloss, and invariably attached by the entire surface of the lower valve. The colour varies from dirty yellow to dull reddish purple. The apices are not much attenuated. The figure 994 of Chemnitz is a fair representation.

OSTREA LACERATA. *Ost. testâ elongatâ, solidiusculâ, valde inæquivalvi, haud lamellosâ, ad nates acutas angustatâ, ad latera basimque laceratâ; valvulâ superiore planulatâ, sublavigatâ, aut lutescente radiis sordide rubro-purpureis ornatâ, aut rubro-purpureâ radiis duobus centralibus nigrescentibus aream angustam albidam includentibus; valvulâ inferiore profundâ, radiis latis atropurpureis strigatâ, costisque raris subangulatis armatâ; superficie internâ albidâ, submargaritaced; cardine denticulis nullis munito.* Long. 2 poll.

Hab. Senegal? Mus. Petit, Cuming.

Not unlike *parasitica*, but distinguishable by its claw-like lateral projections. I have never met with any valves attached by the entire surface. The dull crimson specimens, adorned with two central dusky rays, which usually enclose a narrow space of yellowish white, are peculiarly beautiful.

OSTREA MULTISTRIATA. *Ost. testâ suborbiculari, compressâ, æquivalvi, solidiusculâ aut subtenui, vix lamellosâ, brunneo-rufescente, confertissimè radiatim rugosâ; superficie internâ valvulæ superioris niveâ, purpureo marginatâ; inferioris disco centrali rufo pulcherrimè tinctâ; cardine dentibus validis munito; natibus haud eminentibus; cicatrice satis magnâ.* Long. 3·3 poll.

Mus. Saul, Cuming, Hanley.

The lower valves were attached by their entire surfaces to a ship returning from the coast of Africa.

OSTREA MEGODON. *Ost. testâ falcatâ, glabrâ, solidâ, subæquivalvi, pallide livido-purpurascente, margines versûs plicatâ; plicis anticis 5 aut 6, maximis, subangulatis; posticis minimis, angulatis, paucis, subobsoletis; margine valde plicato, intusque magis minusve scabro; natibus incurvatis; superficie internâ albo-virescente, nunquam margaritaced; cicatrice satis magnâ, reniformi.* Long. 5 poll.

Hab. Peru (Cuming). Mus. Cuming.

A rare and extraordinary species, which bears not the slightest resemblance to any of the recent *Ostreæ*. The narrow sickle-shaped contour and the gigantic marginal tooth-like folds form its most distinctive characteristics. The adult specimens are attached by their apices only.

OSTREA PES-TIGRIS. *Ost. testâ ovali, aut ovali-subtrigonâ, solidâ,*

concolore, atro-purpureo aut rubro-purpurascete, undique sublamellosa, ad margines densè plicata; lamellis imbricatis, confertis, depressis; plicis regularibus, rotundatis; valvis in longitudine paribus; inferiore profundâ, superiore planulatâ atque in costas planas sulcis latis remotis radiatim divisâ; superficie internâ albidâ, margine interno denticulato; denticulis elongatis; cicatrice satis magnâ, obovali aut suborbiculari. Long. 2 poll.

Hab. Isle of Luzon; on rocks (Cuming). Mus. Cuming, Walton.

In typical specimens the shell is subtriangular, from the anterior side sloping in a produced and straightish line, abruptly from the beaks. The sculpture is both elegant and peculiar, the extremely depressed ribs being divided by rather broad grooves, and assuming a scalloped appearance at their edges, from the crowded sublamellar imbrications which cover the entire surface.

OSTREA BICOLOR. Ost. testâ obovatâ, nunquam elongatâ, subtenui aut solidiusculâ, subcompressâ, vix lamellosâ, purpureo-fuscescente radio uno vel radiis duobus albidis ornatâ; margine simplici; natibus subacutis; superficie internâ, albidâ colore externo marginatâ; cardine denticulis nullis munito. Long. 2½ poll.

Hab. Senegal? Mus. Cuming, Hanley.

As the few specimens I have yet examined of this elegant species have been attached by the entire surface to the sheathing of vessels, I am unable to describe the characteristics of the lower valve. The lamellæ, when existing, are flattened, so that the shell presents a smooth surface, and appears inclined to expand laterally whenever unobstructed in its growth by adjacent substances.

OSTREA COLUMBIENSIS. Ost. testâ subinæquivalvi, subtenui, lamellosâ, albidâ, purpureo radiatâ, subcompressâ; valvulâ inferiore magis convexâ; superficie internâ albidâ, submargaritacâ; cardine denticulis nullis munito; cicatrice satis magnâ, reniformi. Long. 2 poll.

Hab. St. Elena, West Columbia, adhering to rocks at half-tide (Cuming). Mus. Cuming.

All the specimens I have seen are attached by the entire surface of the lower valve. The shape varies from oblong to suborbicular, and the valves are of equal length, but the shelly substance of the shallow upper valve fits into the lower one, and is only continued to the margin by the lamellæ, which, when the habitat permits, branch into wavy foliations.

OSTREA CALLICHOA. Ost. testâ obovatâ aut suborbiculari, solidiusculâ, subæquivalvi; valvulâ superiore purpureo alboque lutescente radiatâ, concentricè lamellosâ; lamellis depressis; valvulâ inferiore magis minusve purpureo tinctâ, costisque radiantibus subobtusis densè armatâ; superficie internâ, albâ; margine simplici; cardine denticulis distinctis munito. Long. 2 poll.

Hab. Island of Chiloe, adhering to stones at low-water mark (Cuming). Mus. Cuming.

The general appearance is that of our edible oyster, but the colouring is magnificent.

October 28, 1845.

George Gulliver, Esq., F.R.S., in the Chair.

A paper was read containing "Descriptions of new species of Shells," by Lovell Reeve:—

Genus MUREX.

MUREX MACULATUS. *Mur. testâ ovatâ, subpyramidali, anfractibus brevibus, tuberculato-varicosis, varicibus interstitiisque subtiliter liratis, liris, lirarum interstitiis quoque pulcherrimè fimbriato-cancellatis; albidd, maculâ rubido-fusca inter varices conspicue tinctâ; columellâ et aperturæ fauce pallide rosaced; canali breviusculo, recurvo.*

Hab. —?

The whorls of this species are strongly tubercled by the varices, which are very delicately cancellately ridged across.

MUREX RUSTICUS. *Mur. testâ ovatâ, spirâ acuminato-turritâ, anfractibus medio tumidis, transversim subobscure liratis, tuberculato-varicosis, varicibus frondosis, frondibus brevibus, interstitiis minutissimè squamatis; lutescente-albd, varicibus nigricante-fuscis; aperturâ parvâ, limbo producto; canali breviusculo.*

Hab. —?

A rather solid shell, with an elevated tubercled spire.

MUREX TURRITUS. *Mur. testâ trigono-ovatâ, liris convexis subnodosis irregularibus confertis undique cingulatâ, tuberculo unico inter varices, trifariam varicosâ, varicibus peculiariter laminato-frondosis, frondibus erectis, lateraliter convexis; lutescente livido-olivaceo hic illic saturatiore tinctâ.*

Hab. North Australia; Ince, R.N.

The entire surface of this interesting new species is encircled with very close-set convex ridges, each terminating on the varices in an erect frond, connected together at the side so as to form a continuous laminated frill extending from the suture to the base. From Mr. Cuming's collection.

MUREX CROCATUS. *Mur. testâ trigono-fusiformi, transversim lirâtâ, liris parvis, granoso-squamatis, tuberculo inter varices; tri-varicosâ, varicibus frondosis, frondibus obtuso-ramosis; canali subelongato, frondoso, fuscéscente, frondibus rubido-crocatis.*

Hab. —?

An olive-brown shell, with varices of a bright saffron colour. From Mr. Norris's collection.

MUREX RUBRICOLOR. *Mur. testâ abbreviato-fusiformi, oblique*

trigona, transversim lirata, liris singulis tuberculis duobus, basim versus exanidis, inter varices, lined minutâ elevatâ inter liras; triventricosa, varicibus rotundatis, prominentibus, squamis frondibusque prototomis basim versus præcipue, pulcherrimè ornatis; eximè rubente.

Hab. Island of St. Thomas, West Indies.

An interesting blush-coloured shell, received from M. Gruner of Bremen, of which I have since observed specimens in the British Museum from the island of St. Vincent.

MUREX PLEUROTOMOIDES. *Mur. testâ pyriformi-ovata, anfractibus supernè depressis, transversim liris et minutissimè crispato-squamatis, multifariam varicosis, varicibus muricato-squamatis; canali subelongato, patulo; columellâ labroque intus dentatis, labro supernè sinuato; albidd aut flavicante.*

Hab. —?

A small pyriform prickly shell, having a sinus in the upper part of the lip, after the manner of a *Pleurotoma*.

MUREX PISTACHIA. *Mur. testâ ovata, subfusiformi, solidiusculâ, anfractibus rotundatis, sulco subobsoleto prope suturam cinctis, transversim crebriliris, longitudinaliter suboblique unduloso-varicosis, varicibus obtusis; castaneo-fuscescente, columellâ et apertura fauce subrosaceis; canali brevi.*

Hab. —?

A small chestnut-brown shell, quite distinct from any hitherto described.

MUREX EURYPTERON. *Mur. testâ ovato-oblongâ, basim versus contractâ, spirâ breviusculâ, acuminato-turritâ, suturis subexcavatis; anfractibus supernè depressis, transversim obscure obtusoliris et punctato-striatis, tuberculo superficiali inter varices; triventricosa, varicibus tenuibus, erecto-alatis, ultimo latissimè expanso, supernè falcato-recurvo; apertura parvâ, ovata; canali breviusculo.*

Hab. Japan?

For this new and remarkable shell I am indebted to the kindness of the Rev. W. R. Crotch, whose manuscript name *eurypteron*, from *εὖρος*, widely extended, and *πτερόν*, wing, I feel great pleasure in adopting, as being peculiarly expressive of its curious alate growth. It approaches nearest to the *Murex falcatus*, but in that species there are five varices on a whorl, whilst in this there are but three, and the winged expansions of the *Murex falcatus* are folded over at the superior margin. The specimen above described, and which is, I believe, unique, was received from Holland, and is supposed to have come from Japan.

Genus PLEUROTOMA.

PLEUROTOMA ROSACEA. *Pleur. testâ ovato-turritâ, anfractibus rotundatis, supernè depresso-concavis, transversim subtiliter striatis,*

longitudinaliter crebricostatis; canali brevissimo; sinu lato, sub-amplo; undique eximie rosacea.

Hab. —?

PLEUROTOMA BÆTICA. *Pleur. testâ turrâ, anfractibus supernè depresso-concavis, transversim elevato-striatis, obliquè costatis, costis plicato-nodulosus; canali brevissimo; sinu lato, amplo; baticâ.*

Hab. —?

PLEUROTOMA OBLIQUI-COSTATA. *Pleur. testâ ovato-oblongâ, longitudinaliter costatâ, costis angustis, obliquis, subundatis, supernè obtusè mucronatis; canali brevissimo; albidâ, rubido-fusco parcè maculatâ et variegatâ.*

Hab. —?

PLEUROTOMA FUCATA. *Pleur. testâ ovatâ, crassiusculâ, anfractibus supernè depressiusculis, longitudinaliter costellatis, costellis subobtusis, striis transversis elevatis subobsoletis cancellatis, anfractu ultimo tuberculo gibboso munito; canali brevissimo; labro supernè subsinuato; albâ, croceo-fuscescente fasciatâ et variegatâ.*

Hab. —?

PLEUROTOMA IMPLICATA. *Pleur. testâ pyramidali-turrâ, anfractibus supernè peculiariter depressis, infra seriatim nodosis, nodulorum serie supremâ transversim biliratâ; canali brevissimo; aperturâ brevi; albidâ, epidermide corned olivaceâ undique indutâ.*

Hab. —?

PLEUROTOMA RUBRIFASCIATA. *Pleur. testâ abbreviato-fusiformi, anfractibus supernè concavis, laevibus, infra transversim striatis, et pulcherrimè crebrinodulosus, nodulis supremis, longitudinaliter confluentibus; canali subelongato; flavescente, rubro cinereoque fasciatâ.*

Hab. —?

PLEUROTOMA SACERDOS. *Pleur. testâ subfusiformi, utrinque attenuatâ, crassâ; anfractibus supernè valdè depresso-concavis, subangulatis, tuberculis transversim compressis ad angulum cingulatis, infra seriatim nodulosus; canali breviusculo; carneo-albidâ, flammis maculisque purpureo-rufis variegatâ, anfractuum parte superiori cinereo tinctâ.*

Hab. —?

PLEUROTOMA CROCATA. *Pleur. testâ pyramidali-oblongâ, transversim elevato-striatâ, longitudinaliter costatâ, anfractu ultimo tuberculo parvo gibboso munito; canali brevissimo; aperturâ brevi; sinu lato, amplo; albidâ, epidermide croceo-olivaceâ indutâ.*

Hab. —?

PLEUROTOMA OBELISCUS. *Pleur. testâ pyramidali-ovatâ, anfractibus supernè concavis, infra nodosis, anfractûs ultimi parte inferiori granoso-liratâ; canali brevi; sinu amplo; albidâ, epidermide flavescendo-olivaceâ undique indutâ.*

Hab. —?

PLEUROTOMA ARMILLATA. *Pleur. testâ pyramidali-ovatâ, subfusiformi, anfractibus spiraliter carinatis, carinâ medianâ gemmulatâ, gemmulis transversis, canali breviusculo, sinu amplo, profundo; albâ, anfractibus supra carinam gemmulatam fuscescentibus.*
Hab. Philippine Islands; Cuming.

PLEUROTOMA AQUATILIS. *Pleur. testâ ovato-turritâ, solidâ, spirâ acuminatâ, anfractibus lævibus, supernè depressis, obliquè plicato-tuberculatis; canali brevissimo, sinu amplo; eburneâ, lineis plurimis subtilissimis undulatis, pallidissimè corneo-fuscescentibus, fasciatim pictâ.*
Hab. —?

PLEUROTOMA FLAVESCENS. *Pleur. testâ ovato-turritâ, anfractibus supernè valdè concavis, infra transversim striatis, nodosis, nodis subirregulariter costellæformè confluentibus; canali brevissimo; flavescente-olivaceâ.*
Hab. —?

PLEUROTOMA FRAGILIS. *Pleur. testâ ovatâ, ventricosâ, tenui, fragili, translucidâ, anfractu ultimo valdè maximo; lineis subtilibus elevatis undique creberrimè reticulatâ quarum transversæ fortiores; aperturâ amplâ, sinuatâ; columellâ basique truncatis, lucido-albâ.*
Hab. —?

PLEUROTOMA PULCHELLA. *Pleur. testâ ovato-turritâ, anfractibus supernè depressis, medio plicato-tuberculatis, tuberculis angustis, confluentibus, anfractu ultimo tuberculo gibboso munito; canali brevissimo, sinu amplo; vividè rosaceâ, fasciâ linedque castaneis, spiraliter cingulatâ.*
Hab. —?

PLEUROTOMA PUNCTATA. *Pleur. testâ fusiformi, anfractibus supernè valdè depressis, lævigatis, carinâ parvâ prope suturam medio nodosis, infra granulatis; canali longiusculo; sinu latiusculo; albâ, rubido-fusco punctatâ, præcipuè super carinam et inter nodos.*
Hab. —?

PLEUROTOMA LANCEOLATA. *Pleur. testâ lanceolatâ, anfractibus supernè concavis, tuberculis obliquis plus minusve obsoletis medio ornatis, lævibus, anfractu ultimo minutissimè granulato; canali breviusculo; aurantio-fuscescente, tuberculis albidis.*
Hab. —?

PLEUROTOMA SACRA. *Pleur. testâ ovatâ, solidiusculâ, basim versus subgibbosâ; anfractibus supernè depressis nodulorum serie unicâ prope suturam infra longitudinaliter granoso-costatis, transversim minutè liratis; canali brevissimo, sinu lato; albâ, anfractu ultimo fasciâ pallidè fuscescente cingulatâ.*
Hab. —?

PLEUROTOMA RUBINICOLOR. *Pleur. testâ ovatâ, subventricosâ, an-*

fractibus supernè angulato-depressis, ad angulum obtuso-nodosis, nodis subplicato-confluentibus, lævibus, ultimo basim versus obsolete striato; canali brevissimo; aurantio-rufè, nodis per angulum niveis.

Hab. ———?

PLEUROTOMA NUX. *Pleur. testâ ovatâ, subpyramidali, anfractibus convexis, supernè leviter concavis, ultimo subgibboso; canali brevissimo truncato; sinu latiusculo; rubido-castaneâ, columellâ et aperturæ fauce albis.*

Hab. Cape of Good Hope.

PLEUROTOMA CLARA. *Pleur. testâ pyramidali, subelongatâ, anfractibus obliquè plicato-nodosis, lævibus; canali brevissimo; sinu amplo; purpureo-fuscâ, anfractuum parte superiori albâ.*

Hab. ———?

PLEUROTOMA CASTANEA. *Pleur. testâ subelongato-turritâ, anfractibus supernè concavis, medio plicato-nodosis; lævigatâ, basi subtiliter sulcatâ; canali brevissimo; castaneo-fuscâ.*

Hab. ———?

PLEUROTOMA VIDUA. *Pleur. testâ subobeso-ovatâ, spirâ acuminatâ, anfractibus supernè depressis, medio plicato-nodosis, nodis crebris, longitudinaliter confluentibus, lævigatâ, basim versus granosâ; canali brevissimo; anfractuum parte superiori nived, inferiori olivaceo-nigricante, granis albis.*

Hab. Island of Masbate, Philippines (under stones at low water); Cuming.

PLEUROTOMA PALLIATA. *Pleur. testâ ovato-oblongâ, anfractibus convexiusculis, transversim subtilissimè crebristriatis, granulorum serie unicâ cingulatis, granulis conspicuis, elevatiusculis; canali brevissimo; albâ, epidermide pallidè fulvâ undique indutâ.*

Hab. ———?

PLEUROTOMA EXARATA. *Pleur. testâ pyramidali, anfractibus transversim granoso-striatis, medio leviter angulatis, ad angulum minutè nodulosis, inter nodulos longitudinaliter exaratos; canali brevissimo, truncato; sinu amplo, pallidè fulvo, sulcis longitudinalibus fusco-punctatis.*

Hab. ———?

PLEUROTOMA VITTATA. *Pleur. testâ abbreviato-ovatâ, solidâ, gibbosâ, spirâ subacuminatâ, anfractibus supernè depressis, medio plicato-tuberculatis, infra granulatis; labro incrassato, sinu latiusculo; albâ, vittâ fasciæve lutescente-fuscâ conspicuâ supra tubercula ornatâ.*

Hab. ———?

PLEUROTOMA OLYRA. *Pleur. testâ cylindracco-ovatâ, tenui, subpellucidâ, spirâ brevi; lævigatâ aut obsolete striatâ; aperturâ longiusculâ; canali brevissimo, truncatâ; nived, apice roseo.*

Hab. ———?

PLEUROTOMA SUBULA. *Pleur. testá acuminato-attenuatá, striis elevatis transversis et longitudinalibus creberrimè reticulatá, carinâ plano-obtusâ prope suturam; canali breviusculo, sinu distincto; albidâ, maculis parvis pallidè aurantio-fuscis juxta suturam.*

Hab. Island of Corrigidor, Philippines (found among coarse sand at the depth of seven fathoms); Cuming.

PLEUROTOMA AUREOLA. *Pleur. testá acuminato-elongatá, tenui, semipellucidâ, transversim liratâ, liris parvis, obtusis, longitudinaliter subtilissimè crebristriatâ; canali brevi, labro intus crenulato, sinu parvo, distincto; aureolâ.*

Hab. Island of Luzon, Philippines; Cuming.

PLEUROTOMA SATURATA. *Pleur. testá pyramidali-acuminatâ, infernè subcontractâ, anfractibus striis transversis et longitudinalibus creberrimè granoso-reticulatis; canali breviusculo; labro subtiliter crenulato, sinu distincto; intus extusque fuscâ, fasciis albis longitudinalibus subdistantibus, fasciâ unicâ transversâ in anfractu ultimo ornatâ.*

Hab. Island of Corrigidor, Philippines (found among coarse sand at the depth of seven fathoms); Cuming.

PLEUROTOMA IGNIFLUA. *Pleur. testá ovato-oblongâ, transversim creberrimè elevato-striatâ, longitudinaliter costis latiusculis approximatis, apicem versus conspicuis, basim versus obsoletis; canali brevi; labro intus crenulato, sinu superficiario; albidâ, flammis fulvo-aurantiis undato-fluentibus ornatâ.*

Hab. — ?

PLEUROTOMA PATULA. *Pleur. testá ovato-oblongâ, infernè ventricosâ, subobliquâ, anfractibus tenuibus, transversim subtilissimè et creberrimè striatis; canali brevissimo, truncato; labro simplici, sinu profundo, aperturâ amplâ; albidâ, flammis fulvo-aurantiis, undatis, longitudinaliter fluentibus ornatâ.*

Hab. Bolinao, island of Luzon, Philippines (found under stones at low water); Cuming.

PLEUROTOMA PUTILLUS. *Pleur. testá ovatâ, spirâ pyramidali-acuminatâ, anfractibus transversim subtiliter striatis, supernè concavis, infra nodosis, nodis longitudinaliter obliquè confluentibus; canali breviusculo; labro simplici, sinu lato; flavicante-albidâ, lined undulatâ fulvo-aurantiâ inter nodos fluente.*

Hab. Calipan, island of Mindoro, Philippines (found among coarse sand at the depth of fifteen fathoms); Cuming.

PLEUROTOMA SPECTRUM. *Pleur. testâ fusiformi, transversim elevato-striatâ, anfractibus rotundatis, longitudinaliter fortiter obliquè plicato-nodosis, nodis in anfractu ultimo evanidè confluentibus; canali brevi; labro simplici; nived, nodis pallidè rufescente-fuscis.*

Hab. Puerto Galero, island of Mindoro, Philippines (found among coral sand at the depth of about nine fathoms); Cuming.

PLEUROTOMA BILINEATA. *Pleur. testá ovato-oblongâ, subpyrami-*

dali, anfractibus medio tumidis, uniseriatim plicato-nodosis, nodis angustis compressiusculis, anfractûs ultimi dorso callositate munito; canali brevissimo, labro simplici, sinu amplo; incarnato-fuscescente, lineis duabus saturatioribus, quarum superior multo subtilior inter nodos cingulata.

Hab. Islands of Capul and Mindoro, Philippines (found on the reefs and among coarse sand at the depth of fifteen fathoms); Cuming.

PLEUROTOMA METCALFIANA. *Pleur. testâ ovatâ, crassiusculâ, transversim creberrimè elevato-striatâ, longitudinaliter apicem versus subobsoletè sulcatâ; albâ, maculis rufo-fuscis subquadratis fasciatim pictâ; canali brevi.*

Hab. — ?

PLEUROTOMA GRAYI. *Pleur. testâ ovatâ, subventricosâ, anfractibus supernè angulatis, longitudinaliter obtuso-costatis, transversim creberrimè sulcatis; canali brevi; labro incrassato, sinu amplo; castaneo-fuscâ.*

Hab. — ?

PLEUROTOMA LUTEO-FASCIATA. *Pleur. testâ subovato-oblongâ, anfractibus prope suturam impressis, longitudinaliter fortiter costatis, costis crebris, obtusis; canali brevissimo; albâ, fasciis luteis pulcherrimè ornatâ.*

Hab. — ?

PLEUROTOMA PAGODUS. *Pleur. testâ pyramidalî, anfractibus supernè depressis, subangulatis, ad angulum costatis, costis brevibus, confertis, lineis elevatis decussatis; cinereo-rufescente, maculis rubidis inter costas, columellâ labroque rubido tinctis; canali brevi.*

Hab. — ?

PLEUROTOMA URNULA. *Pleur. testâ ovatâ, ventricosâ, spirâ breviusculâ, longitudinaliter costatâ, transversim elevato-striatâ; castaneo-fuscâ; canali breviusculo, aperto.*

Hab. — ?

PLEUROTOMA FORTIENSIS. *Pleur. testâ pyramidalî-oblongâ, anfractibus supernè subangulatis, longitudinaliter obliquè costatis; basi truncatâ; albidâ.*

Hab. Frith of Forth; Gray.

PLEUROTOMA REFLEXA. *Pleur. testâ ovatâ, Tritoniformi, concentricè costatâ, transversim fortiter liratâ; aperturâ longiusculâ sinuosâ, labro reflexo, intus denticulato.*

Hab. — ?

PLEUROTOMA QUADRATA. *Pleur. testâ ovatâ, spirâ turrîtâ, anfractibus fortiter angulatis, longitudinaliter costatis, costis ad angulum mucronatis, infra striis duabus elevatis cingulatis, anfractûs ultimi parte inferiori lirâ mucronatâ clathratâ; flavicante, costarum interstitiis rufo-castaneis; sinu parvo.*

Hab. — ?

PLEUROTOMA PARVULA. *Pleur. testá fusiformi-ovatá, anfractibus tumidiusculis, longitudinaliter costatis, transversim creberrimè liris; canali breviusculo; lutescente.*

Hab. — ?

PLEUROTOMA PSEUDO-CARINATA. *Pleur. testá ovatá, subpyramidali, anfractibus supernè concavis, subindistinctè carinatis, infra confertim plicato-costatis, transversim crebrisulcatis; basi truncatá; flavescente.*

Hab. — ?

PLEUROTOMA LINGUIDA. *Pleur. testá gracili-fusiformi, longitudinaliter noduloso-costatá, transversim elevato-striatá, costis strisque subdistantibus; sinu amplo; albá, rufescente-fusco tinctá.*

Hab. — ?

PLEUROTOMA PUNCTICINCTA. *Pleur. testá ovatá, spirá breviusculá, longitudinaliter subobscure plicatá, interstitiis minutissimè striatis; sinu subamplo; albidá, cingulá unicá punctatá spiraliter ornatá.*

Hab. — ?

PLEUROTOMA PYRAMIDULA. *Pleur. testá subpyramidali-elongatá, liris minutis longitudinalibus et transversis creberrimè clathratá, suturis unicarinatis; aperturá parvâ, sinu amplo; basi truncatá; albidd.*

Hab. — ?

PLEUROTOMA ÆRUGINOSA. *Pleur. testá acuminato-turritá, anfractibus longitudinaliter subobsoletè plicato-costatis, interstitiis minutissimè impresso-striatis; albidá, suturis livido-viridescentibus, anfractús ultimi parte inferiori livido-viridescente, punctis nigricantibus marginatá, apice rufescente-fusco.*

Hab. — ?

PLEUROTOMA OBLIQUATA. *Pleur. testá ovatá, subobesá, spirá acuminatá, anfractibus medio angulato-tumidis, oblique costatis, costis ad angulum nodosis; intus extusque flavido-fusá, zonâ pallidâ angustâ ad angulum cingulatá.*

Hab. — ?

PLEUROTOMA PELLIS-PHOEÆ. *Pleur. testá pyramidali, anfractibus convexis, longitudinaliter fortiter et creberrimè granulatis, transversim subsulcatis, aperturá peculiariter parvâ, sinu indistincto.*

Hab. — ?

PLEUROTOMA VEXILLUM. *Pleur. testá acuminato-elongatá, longitudinaliter crebricostatá, basi transversim liratá; aperturá parvâ, sinu amplo, albidá, suturis et anfractús ultimi parte inferiori fuscis.*

Hab. — ?

PLEUROTOMA CARDINALIS. *Pleur. testá pyramidali, spirá acuminatá, anfractibus longitudinaliter subtiliter plicatis, transversim minutissimè striatis; sinu lato, amplo; albidá, fasciis violaceo-brunneis cingulatá.*

Hab. Island of Negros, Philippines (found among sand at the depth of four fathoms); Cuming.

PLEUROTOMA ARATA. *Pleur. testâ pyramidali, suturis peculiariter excavatis, anfractibus lævibus angustis granulosis creberrimè cingulatis; aperturâ parvâ; albâ.*

Hab. — ?

PLEUROTOMA GUILDINGII. *Pleur. testâ pyramidali-oblongâ, anfractibus supernè depresso-concavis, infra obliquè nodoso-plicatis, transversim undique creberrimè striatis; intus extusque picco-nigrâ.*

Hab. St. Vincent's, West Indies; Guilding.

PLEUROTOMA HYALINA. *Pleur. testâ elongato-acuminatâ, basi truncatâ, tenui, hyalinâ, longitudinaliter undique minutissimè et confertissimè elevato-striatâ; albidâ, lineis rufo-fuscis distantibus cingulatâ; labro simplici, sinu parvo.*

Hab. — ?

PLEUROTOMA TICAONICA. *Pleur. testâ oblongo-ovatâ, spirâ tereti, anfractibus subvetricosis, transversim irregulariter liratis, lirarum interstitiis minutissimè clathratis; albidâ, aurantio-fusco hic illic flammâtâ; sinu parvo.*

Hab. Island of Ticao, Philippines (found on the reefs); Cuming.

PLEUROTOMA FULVA. *Pleur. testâ oblongo-ovatâ, subturritâ, anfractibus longitudinaliter multicostatis, costis angustis, prominentibus; fulvâ.*

Hab. — ?

PLEUROTOMA CANTHARIS. *Pleur. testâ obtuso-ovatâ, crassâ, solidâ, lævigatâ, anfractibus medio obliquè nodoso-plicatis; sinu subamplo; nigricante-fuscd, nodis albidis.*

Hab. Sibonga, island of Zebu, Philippines (found under stones at low water); Cuming.

PLEUROTOMA VULTUOSA. *Pleur. testâ ovatâ, anfractibus subrotundis, longitudinaliter obtusè costatis, transversim creberrimè liratis; labro intus denticulato, sinu amplo, lato; albicante, apice pallidè rosaceo.*

Hab. Baclayon, island of Bohol, Philippines (found under stones); Cuming.

PLEUROTOMA OPALUS. *Pleur. testâ oblongo-ovatâ, pentagonali, crassâ, lævigatâ, longitudinaliter costatâ, costis obliquè continuis, subnodosis, angustis, quasi vellicatis, interstitiis plano-concavis; aperturâ parvâ, sinu amplo, profundo; eburneâ, nitente, costarum interstitiis incarnato-fuscescentibus.*

Hab. Cagayan, province of Misamis, island of Mindanao, Philippines (found in sandy mud at the depth of twenty-five fathoms); Cuming.

PLEUROTOMA EBUR. *Pleur. testâ oblongo-ovatâ, pentagonali, crassâ,*

spirâ acuminatâ, longitudinaliter continuè costatâ, transversim striatâ, striis basim versus conspicuis; sinu amplo, profundo; eburneâ.

Hab. — ?

PLEUROTOMA EGROTA. *Pleur. testâ oblongo-ovatâ, tenuiculâ, sub-ventricosâ, spiræ suturis profundis, striis impressis longitudinalibus et transversis undique decussatâ; aperturâ subelongatâ, amplâ; albicante.*

Hab. Singapore (found among fine sand at the depth of seven fathoms); Cuming.

PLEUROTOMA CONCENTRICOSTATA. *Pleur. testâ gracili-fusiformi, spirâ acuminatâ, anfractibus creberrimè concentricè costatis, suturis simplicibus; incarnato-fuscescente.*

Hab. — ?

PLEUROTOMA LIRATA. *Pleur. testâ subfusiformi, basi contractâ, transversim undique liratâ, columellâ excavatâ, callositate supernè munitâ, labro subeffuso, leviter incrassato, sinu lato, amplo, canali paululùm elongato; albidâ, labri margine intus rufescente.*

Hab. Islands of Luzon and Mindanao, Philippines (found in sandy mud at the depth of seven fathoms); Cuming.

PLEUROTOMA NEXA. *Pleur. testâ ovatâ, Tritoniformi, anfractibus subrotundatis, plicato-costatis, funiculis exilibus angustis, costas super leviter nodulosas, cingulatis; aperturâ subamplâ, labro planulato, sinu lato; canali brevissimo, recurvo; albâ, fusco undique tinctâ et fasciatâ, funiculis suturationibus.*

Hab. Islands of Masbate and Luzon, Philippines (found under stones at low water); Cuming.

PLEUROTOMA INQUINATA. *Pleur. testâ acuminato-fusiformi, anfractibus transversim exiliter liratis, longitudinaliter creberrimè striatis; sinu profundo; albidâ, aurantio-fusco hic illic inquinatâ.*

Hab. Gindulman, island of Bohol, Philippines (found among coral sand at the depth of seven fathoms); Cuming.

PLEUROTOMA UNDATICOSTA. *Pleur. testâ fusiformi, anfractibus supernè leviter depressis, costis longitudinalibus undatis concentricè ornatâ; albidâ.*

Hab. — ?

PLEUROTOMA PAXILLUS. *Pleur. testâ abbreviato-ovatâ, spirâ apice acuminatâ; anfractibus supernè concavis, unicarinatis, medio creberrimè plicatis, plicarum interstitiis subtilissimè striatis, infernè liratis; sinu amplo; nigricante-fuscâ.*

Hab. — ?

PLEUROTOMA SORDIDA. *Pleur. testâ ovatâ, longitudinaliter subobliquè costatâ, costarum interstitiis elevatis clathratis; sordidè albâ.*

Hab. — ?

PLEUROTOMA PLURICARINATA. *Pleur. testâ subfusiformi-oblongâ,*

carinis plurimis acutis cingulatâ, quarum interstitia striis longitudinalibus cancellata; aperturâ oblongâ, sinu subamplo; canali leviter recurvo; lutescente, aurantio-fusco pallide strigato-tinctâ.

Hab. Island of Burias, Philippines (found in sandy mud at the depth of seven fathoms); Cuming.

PLEUROTOMA COMPTA. *Pleur. testâ ovatâ, spirâ nodoso-turritâ, anfractibus supernè concavis, infra latè costatis, liris angustis transversim funiculatis; labro incrassato, intus denticulato, sinu amplo, lato; lutescente-albâ.*

Hab. Baclayon, island of Bohol, Philippines (found under stones at low water on the reefs); Cuming.

PLEUROTOMA HEXAGONALIS. *Pleur. testâ pyramidali-ovatâ, anfractibus costis sex continuis longitudinaliter ornatis; aperturâ parvâ, sinu distincto; fuscescente-albâ.*

Hab. Loay, island of Bohol, Philippines (found in sandy mud at the depth of seventeen fathoms); Cuming.

PLEUROTOMA ARCTATA. *Pleur. testâ pyramidali-elongatâ, anfractibus obliquè costatis, costis striis elevatis funiculatis; labro incrassato, peculiariter effuso, sinu amplo; sordidè albâ.*

Hab. Island of Corrigidor, Philippines (found among coarse sand at the depth of seven fathoms); Cuming.

PLEUROTOMA COCCINATA. *Pleur. testâ ovatâ, apicem versus acuminatâ, anfractibus lævigatis, supernè concavis, infra plicato-nodosis; basi truncatâ; albâ, inter nodos dorsumque coccinatâ.*

Hab. —?.

PLEUROTOMA VITREA. *Pleur. testâ cylindraceo-elongatâ, basi leviter contractâ, tenui, pellucidâ, vitreâ, lævigatâ, anfractibus supernè et infernè subtilissimè sulcatis; albidâ.*

Hab. Singapore and island of Mindanao, Philippines (found at depths of seven and twenty-five fathoms); Cuming.

PLEUROTOMA FORAMINATA. *Pleur. testâ fusiformi-ovatâ, liris angustis longitudinalibus et transversis creberrimè clathratis; lutescente.*

Hab. —?.

PLEUROTOMA EFFICTA. *Pleur. testâ ovatâ, spirâ breviusculâ, acuminatâ, longitudinaliter subconcentricè costatâ, costis striis elevatis cancellatis; aperturâ subampld, labro incrassato, sinu latiusculo.*

Hab. —?.

PLEUROTOMA CAVERNOSA. *Pleur. testâ oblongâ, spirâ angulato-turritâ, anfractibus supernè subangulatis, longitudinaliter costatis, costis distantibus, liris angustis elevatiusculis transversis clathratis, anfractu ultimo prope basim peculiariter cavernoso; fuscâ, liris costas super albicantibus.*

Hab. Philippine Islands; Cuming.

PLEUROTOMA POLYNESEIENSIS. *Pleur. testá acuminato-turritá, anfractibus parvis, rotundatis, longitudinaliter crebricostatis, transversim striatis; labro incrassato, sinu amplo; albicante.*

Hab. Lord Hood's Island; Cuming.

The following paper, entitled "Description de quelques nouvelles Nérîtes Fluviales, du cabinet de H. Cuming, Esq.," par C. A. Récluz, was then read:—

I. NERITE SUBHEMISPHERICÆ.

1. NERITA ROSSMASSLERIANA. *Ner. testá subhemisphæricá, convexá, luteo-fulvá, nigro-irregulariter reticulatá; anfractu unico levissimè perlongum striato; peritremate ovato-rotundato, basi obtusè anguloso; aperturá crocéá; columellá planissimá, declivi, margine acuto, in medio subarcuato et obsoletissimè 3-4-denticulato.*

Hab. —?

Alt. 10, lat. 18, convex. 10 mill.

Cette Nérítine par son extérieur rappelle très bien la forme et la coloration extérieure de la *Nerita Sayana*, Récl., et par son ouverture la *Nerita Bruguiereana*, Récl. Ces deux circonstances peuvent servir à la faire distinguer de toutes les deux; mais c'est principalement par ses caractères spécifiques qu'il est aisé de la différencier. Nous la dédions au savant professeur et conchyliologue distingué, Mr. Rossmassler.

2. NERITA VIOLACEA, Gmelin; *Ner. crepidularia*, Lamk.

Var. β . *Testá ellipticá, luteo-pallidá, violaceo-nigricante reticulatá; aperturá nigricante; peritremate continuo.*

Hab. —? Cabinet de Mr. H. Cuming.

II. SERRATÆ.

A. Globosæ.

3. NERITA SOBRINA. *Ner. testá globoso-ovatá, lutescente, lineis nigris distantibus latiusculis undatis vel angulato-flexuosis fulgurantibusque pictá; anfractibus tribus, ad suturam nigro-marginatis; spirá semisphæricá; columellá convexiusculá, supernè plus minusve callosá, infernè compresso-subcanaliculatá, margine rectá, vix denticulatá; labro semi-elliptico, intus incrassato.*

Hab. Cayenne?

Alt. 20, lat. 23, conv. 15 mill.

Néríte si voisine de la *Ner. zebra*, Bruguière, var. *major*, Encycl. Méth. pl. 455. fig. 3, *a. b.*, que l'on serait tenté de la confondre avec cette espèce déjà si variable, si elle n'était plus solide, plus grande et à lignes colorantes plus larges, plus espacées et plus anguleuses. Sa suture noire comme sur cette dernière, sur la *Ner. lineolata*, Lamk., et sur la *Ner. reclinata*, Say, dont elle se rapproche aussi par la forme extérieure et les caractères de l'ouverture, sembleraient faire pencher vers sa fusion avec la *Ner. zebra*. Cependant comme nous

n'en connaissons que peu d'exemplaires, nous avons pensé qu'il ne serait pas inutile de la signaler ici. Ce sera seulement lorsqu'elle sera plus abondante qu'on pourra décider si elle doit rester indépendante de la première ou lui être réunie.

B. *Ovata vel ovato-oblonga*.

4. *NERITA ZELANDICA*. *Ner. testâ ovato-oblongâ, ventricosâ, tenuiusculâ; anfractibus 3-4 supremis sapiùs derosis, infimo sub-suturâ horizontaliterque compresso; nigrâ lineis ravidis longitudinalibus angulato-flexuosis creberrimis pictâ, interdum lutescente supernè et infernè latè fasciatâ; columellâ subcompressâ, croceâ, margine denticulatâ et in medio vix arcuatâ; labro tenui, margine sordidè rubente, intus lacteo ac parùm incrassato.*

Hab. New Zealand: on stones in mountain-streams.

Alt. 19-20, *lat.* 18-19, *conv.* 12 mill.

Nérítine intermédiaire entre la *Nerita turrita*, Chemnitz, et la *Nerita communis*, Quoy et Gaimard (*Neritina sineasis*, Beck, *ex fide propria*). Elle est toujours d'une texture plus mince que ces dernières, presque fragile, autrement colorée et constante dans ses caractères.

III. *SPINOSÆ* (*Clithon*, Montfort, Leach).

C. *Muticæ*.

5. *NERITA SOLIUM*. *Ner. testâ ovato-ventricosâ, olivaceâ, posticè maculis rufis triangularibus transversisque obsoletè pictâ; anfractibus 1½; infimo supra medium vix anguloso, supernè depresso; apice puncto excavato notato; aperturâ albâ, margine pallidè lutescente sive aurantiâ; columellâ plano-compressâ, supernè callosâ, margine rugosâ et in medio excavatâ.*

Hab. Bencoonet, isle of Sumatra; in a muddy stream.

Alt. 22, *lat.* 26½, *convex.* 18 mill.

Celle-ci a de l'affinité avec la *Nerita bicolor*, Récl.; elle est néanmoins plus transversale ou oblique, plus épaisse et pesante, et d'une coloration tout-à-fait différente.

6. *NERITA CELATA*. *Ner. testâ globoso-ovatâ, olivaceo-lutescente, posticè pallidiore, striis intensioribus longitudinalibusque pictâ; anfractibus 1½; infimo supra medium subanguloso; aperturâ albido-cærulescente pallido; columellâ plano-compressâ, supernè callosâ, margine denticulatâ, medio breviter ac rectè emarginatâ.*

Hab. — ?

Alt. 17, *lat.* 20½, *convex.* 14 mill.

Espèce intermédiaire entre la *Nerit. bicolor* et la *Ner. olivacea*, Récl.; elle a la coloration intérieure et presque l'extérieure de la première, si ce n'est qu'elle est brillante, et l'autre a un ton de couleur presque mat; elle n'a qu'un tour et demi, formant une spire basse: l'autre en a trois disposés en cône. Son sommet est entier tandis que sur la *Ner. bicolor*, ce sommet est toujours tronqué par rapport à sa corrodation; enfin l'échancrure de la maize columellaire toujours plus étroite, a un peu plus de profondeur. Sa forme générale la rapproche seulement de la *Ner. olivacea*.

7. *NERITA DOINGII*. *Ner. testá parvá, globoso-ovata vel subglobosa, parum obliqua, tenuiuscula; anfractibus $1\frac{1}{2}$ –2 oblique rugulosis, transversim et sub lente creberrimè ac obsolete striolatis; apertura viridula; columellá ferè plana, margine denticulata et in medio subarcuata; labro tenui, semicirculari.*

Var. α . *Testá lineolis longitudinalibus undulatis nigris et luteis creberrimè picta.*

Var. β . *Testá ut in var. α , et zonis lutescentibus plus minusve numerosis cincta.*

Hab. Hanover Bay, North Australia. Collected by Mr. T. E. Doing, R.N.

Alt. $9\frac{1}{3}$, lat. 10, convex. 7 mill.

Les stries longitudinales sont en forme déridés dans la moitié supérieure du dernier tour et s'affaiblissent sur l'autre moitié au fur et à mesure qu'elles avancent vers sa basse; les transversales sont très fines, pressées et ne se montrent complètement que sous la loupe.

8. *NERITA COLOMBARIA*. *Ner. testá ovato-globosa, lævissimè striata; anfractu unico, rufescente, viridescente pallido obsolete fasciata, maculis minimis luteis nigro seu roseo marginatis picta; columellá callosa, subconvexa, denticulata, medio vix emarginata; labro anticè subtruncato, basi et intus incrassato.*

Operculo crasso, externè viridulo, lutescente pallido undato, medio perlongum striâ bipartito.

Var. β . *Testá viridi-olivacea, striis luteis distantibus ornatâ, medio et infernè lutescente latè fasciata; fasciis nebulis rubris pictis.*

Hab. Colombo, Ceylon. Collected by Capt. Templeton.

Alt. 9 – $10\frac{1}{2}$, lat. $10\frac{3}{4}$ –11, convex. 7–8 mill.

Espèce bien distincte.

IV. SUBAURICULATÆ.

9. *NERITA JORDANI*, Butler, Sowerby, Conch. Illustr.

Var. α . *Major. Testá ovata vel oblonga, albida, lineis undulatis nigris, rubris, violaceisve picta; apertura oblique semi-ovata; labro interdum supernè dilatato.*

Var. β . *Strangulata. Testá minor, rotundata, ovata seu subconica, medio horizontaliter compressa, ferè strangulata, albida lineis roseis rubrisve picta; spirâ sæpiùs obtusa, interdum acuta; labro supernè interdum dilatato.*

Var. γ . *Nitida. Testá major, nigerrima, nitidissima.*

Var. δ . *Limosa. Testá parva, sæpissime argilla crasse obducta, subtus albida aut luteo-viridescente lineis nigris, violaceis, rubrisve undulatis picta, interdum omnino nigerrima sive lutescente.—Nerita lutescens, Megerle?*

Hab. La var. α . Le Jourdain; la var. β . Smyrne; la var. γ . La Syrie; la var. δ . Céphalonie.

Nous n'avons pu trouver des caractères propres à différencier toutes ces coquilles très variables dans la forme générale et la coloration; elles sont arrondies, ovales, oblongues ou en cône aigu; leur ouverture souvent semisphérique ou semiovale tend à s'étendre en

aîle vers la marge supérieure du labre. Leur opercule est le même. Nous avons acquis, sous le nom de *Ner. lutescens*, Megerle, une variété de cette espèce tantôt ovale transverse mince et noire, tantôt ovale selon l'axe longitudinal, plus forte et zébrée; toutes les deux remarquables par un enduit argilleux, épais, dur, qui enveloppait leur test dans une épaisseur de 3 à 5 millimètres. Cette particularité que l'on remarque également sur la *Nerita domingensis*, Lamarck, et même sur certaines coquilles de la *Nerita fluviatilis*, Lamarck, vivant dans les mares, doit-elle être attribuée à l'état d'apathie de l'animal, dont le repos faciliterait les dépôts successifs du limon, ou bien serait-il un moyen employé par ces animaux pour se préserver de l'attaque de leurs ennemis, ou d'une trop grande chaleur ou d'un grand froid, selon les climats dans lesquels ils vivent? Ce qu'il y a de certain c'est que beaucoup de ces coquilles ainsi recouvertes ont la spire généralement corrodée. Quelques observateurs ont cru remarquer, que la corrodation de la spire des coquilles fluviatiles habitant les eaux vives ou agitées était un fait dû à ce mouvement des eaux; nous ne pensons pas que cette raison soit la seule, et il ne serait pas sans intérêt d'en étudier la cause, sur plusieurs parties de notre globe.

“Description d'une nouvelle espèce de *Conovulus*,” par C. A. Récluz :—

CONOVULUS CUMINGIANUS. *Con. testâ oblongo-acutâ, lævigatâ, nitidâ, castanâ; anfractibus 10-12, planis, angustis, ultimo supra medium obtusissimè carinato, carinâ zonâ lutescente cinctâ; spirâ conico-acutâ; aperturâ angustatâ; columellâ obliquâ, triplicatâ, plicâ superiori parvulâ, secundâ majori, ab inferiori porrectâ sulco profundo disjunctâ; labro acuto, fulvo, intus albo, subcalloso et sulcato; umbilico nullo.*

Long. 16 mill, larg. 7 mill.

Hab. Isle of Negros : in a rivulet.

Rapportée par Mr. Cuming.

November 25, 1845.

William Horton Lloyd, Esq., in the Chair.

A paper was read containing "Descriptions of fourteen new species of *Helix*, belonging to the collection of H. Cuming, Esq.," by Dr. L. Pfeiffer:—

1. *HELIX ALBOCINCTA*, Pfr. *Hel. testâ umbilicatâ, orbiculato-convexâ, tenuiusculâ, supernè regulariter et confertim striatâ, sericinâ, fulvo-corneâ, carinatâ; spirâ depresso-conicâ, apice obtuso; anfractibus 5½ convexis, carinâ albâ cinctis, ultimo basi sublævigato, lineis subtilibus, concentricis notato; umbilico mediocri, pervio; aperturâ obliquâ, angulato-lunari; peristomate simplice, acuto.*

Diam. 11, alt. 5 mill.

Collected by Mr. Cuming at Himamaylan, island of Negros.

2. *HELIX BOHOLENSIS*, Pfr. *Hel. testâ imperforatâ, depressâ, lenticulari, acutè carinatâ, tenui, corneo-albidâ; spirâ convexiusculâ; anfractibus 7 planulatis, regulariter confertim striatis, juxta carinam lineis 2 acutè elevatis approximatis cinctis, ultimo basi convexiusculo, striatulo, medio vix impresso, anticè non descendente; aperturâ verticali, depressissimâ, latè angulato-lunari; peristomate simplice, acuto, margine supero brevissimo.*

Diam. 14, alt. 6 mill.

Var. *minor*, *anfractibus 6½*. Diam. 10, alt. 4 mill.

Collected by Mr. Cuming at Loboc, island of Bohol.

3. *HELIX CYATHUS*, Pfr. *Hel. testâ umbilicatâ, orbiculato-conicâ, supernè arcuatim costulato-striatâ, unicolore fuscâ; spirâ elevatâ, obtusè conicâ; suturâ distinctâ, crenulato-marginatâ; anfractibus 6½ convexiusculis, ultimo carinato, basi sublævigato, planiusculo; umbilico magno, profundo, cyathiformi; aperturâ subverticali, angulato-lunari; peristomate simplice, margine supero recto, basali arcuato, reflexiusculo, columellari breviter descendente.*

Diam. 8, alt. 4½ mill.

Collected by Mr. Cuming at S. Jaun, province of Cagayan, island of Luzon, on the leaves of trees.

4. *HELIX DUBIOSA*, Pfr. *Hel. testâ imperforatâ, depresso-globosâ, tenui, obsoletè malleatâ, fulvâ, fasciâ suturali et areâ columellari nigro-rufis, fasciis plurimis angustis epidermidis hydrophanæ albidæ ornatâ; spirâ subsemiglobosâ; anfractibus 4 convexiusculis, celeriter accrescentibus; columellâ intrante, planulatâ, declivi; aperturâ lunato-rotundatâ, intus margaritacè; peristomate tenui, albo, latè expanso, vix reflexiusculo, margine basali cum columellâ angulum obsoletum formante.*

NO. CLIII.—PROCEEDINGS OF THE ZOOLOGICAL SOCIETY.

Diam. 35, alt. 26 mill.

β. *Fasciis 2 nigricantibus ad peripheriam.*

Collected by Mr. Cuming on the island of Samar. This is the shell figured by Mr. Reeve under the name of *H. decipiens*, Sowerby (Conchologia Sytematica, vol. ii. pl. 145. fig. 16); it is nearer allied to *H. mirabilis*, Fér., but may be distinguished as a good species.

5. *HELIX FILOCINCTA*, Pfr. *Hel. testâ perforatâ, depressâ, tenui, pellucidâ, corned, striatâ, nitidâ; spirâ parùm elevatâ, obtusâ; anfractibus 5½ convexiusculis, carinatis, ultimo basi convexo; carinâ filiformi, in anfractibus superioribus conspicuâ, sed non exsertâ; aperturâ verticali, lunato-subauriformi; peristomate simplice, recto, margine columellari perobliquo, elongato, descendente, ad dextram subitò ascendente.*

Diam. 11, alt. 5½ mill.

Collected by Mr. Cuming at Cagayan, province of Misamis, island of Mindanao.

6. *HELIX GOULDI*, Pfr. *Hel. testâ umbilicatâ, orbiculato-conicâ, tenuiusculâ, subtiliter striatâ, vix nitidâ, unicolore fuscâ; spirâ elevatâ, conoidâ; anfractibus 6 convexiusculis, ultimo carinato, anticè subrotundato, basi planiore; umbilico mediocri, pervio; aperturâ lunato-orbiculari; peristomate simplice, marginibus subconniventibus, dextro recto, columellari subdilatato, patente, basali reflexiusculo.*

Diam. 9½, alt. 6 mill.

Collected by Mr. Cuming in the province of Laguna, island of Luzon, and on the island of Negros.

7. *HELIX ORTHOSTOMA*, Pfr. *Hel. testâ umbilicatâ, depressâ, supernè confertim subarcuato-striatâ, tenui, pellucidâ, pallidè corned; spirâ vix elevatâ, obtusâ; anfractibus 6 angustis, convexiusculis, ultimo basi sublaevigato; umbilico majusculo, cylindraco; aperturâ verticali, obliquè lunari; peristomate simplice, acuto, margine supero brevi, basali valdè arcuato, columellari dilatato, sinuato.*

Diam. 10, alt. 5 mill.

Collected by Mr. Cuming at Dingle, island of Panay, under decayed leaves.

8. *HELIX STRIGILIS*, Pfr. *Hel. testâ umbilicatâ, depressâ, lenticulari, tenui, pellucidâ, pallidè corned, acutè carinatâ; anfractibus 6 angustis, vix convexiusculis, supernè confertim costulato-striatis, lineis elevatis concentricis reticulatis, ultimo basi convexiore, laevigato, nitido; umbilico mediocri, cylindrico; aperturâ subverticali, angulato-lunari; peristomate simplice, acuto, margine supero brevi, strictiusculo, basali valdè arcuato.*

Diam. 12, alt. 5½ mill.

Collected by Mr. Cuming at Himamaylan, island of Negros.

9. *HELIX CONSPERSULA*, Pfr. *Hel. testâ imperforatâ, turbinatâ, striatâ, opacâ, tenuiusculâ, stramineâ vel cinnamomeâ, punctis albis confertissimè conspersâ; spirâ conoidâ, apice obtusiusculo,*

nigricante; suturâ mediocri, castaneo-marginatâ; anfractibus 6 convexiusculis, ultimo subangulato, basi planiusculo; columellâ obliquâ, subarcuatâ, subexcavatâ, albâ, castaneo-marginatâ; aperturâ amplâ, lunato-ovali; peristomate simplice, breviter expanso.

Diam. $23\frac{1}{2}$, alt. 15 mill.

Hab. — ?

10. *HELIX HARTMANNI*, Pfr. *Hel. testâ umbilicatâ, depressâ, subdiscoideâ, acutè carinatâ, arcuatim distinctè striatâ, unicolore fuscâ; spirâ vix elatâ; suturâ lineari; anfractibus 6 planulatis, ultimo non descendente, basi convexiusculo; umbilico magno, perspectivo; aperturâ depressâ, securiformi; peristomate recto, marginè supero simplice, antrorsum arcuato, basali subincrassato.*

Diam. 26, alt. 8 mill.

Hab. — ?

11. *HELIX HELICOPHANTOIDES*, Pfr. *Hel. testâ perforatâ, depressâ, tenui, obliquè et confertim costulato-striatâ, stramineâ, rufo tessellatâ et strigatâ; spirâ planiusculâ; anfractibus $3\frac{1}{2}$ vix convexiusculis, rapidè crescentibus, ultimo depresso; aperturâ perobliquâ, amplâ, subovali; peristomate simplice, acuto, marginibus approximatis, callo tenuissimo junctis.*

Diam. maj. $4\frac{2}{3}$, alt. 2 mill. (Spec. max. coll. Cuming.)

Hab. Island of Juan Fernandez.

The shape of this shell is very like that of *Helicophanta rufa*. Perhaps it may belong to the same genus.

12. *HELIX MARMORELLA*, Pfr. *Hel. testâ perforatâ, depressâ, tenuissimâ, distanter costulatâ, pellucidâ, stramineâ, strigis obliquis et maculis rufis marmoratâ; spirâ planâ; anfractibus 3 vix convexiusculis, rapidè accrescentibus, ultimo basi paulò convexiore; aperturâ perobliquâ, amplâ, lunato-ovali; peristomate simplice, acuto, marginibus callo tenui junctis, supero antrorsum arcuato.*

Diam. 7, alt. 3 mill.

Hab. Island of Juan Fernandez.

13. *HELIX KINGI*, Pfr. *Hel. testâ umbilicatâ, depressâ, sub lente confertissimè striatâ, tenui, diaphanâ, stramineâ, rufo-flammulatâ et 1-2-fasciatâ; spirâ depressâ; anfractibus $5\frac{1}{2}$ convexiusculis, celeriter accrescentibus; umbilico majusculo, perspectivo; aperturâ lunato-ovali; peristomate simplice, acuto, marginibus conniventibus, columellari subdilatato, patente.*

Diam. 7, alt. 3 mill. (Spec. max. coll. Cuming.)

Hab. Island of Juan Fernandez.—An *H. pusio*, King?

14. *HELIX RADIELLA*, Pfr. *Hel. testâ umbilicatâ, depressâ, sublenticulari, tenui, utrinque confertim costulatâ, corned, strigis crebris undatis, castaneis, ad peripheriam latioribus radiatâ; spirâ vix elevatâ; anfractibus $5\frac{1}{2}$ convexiusculis, ultimo subangulato, basi planiusculo; umbilico mediocri, pervio; aperturâ subverticali, latè lunari; peristomate simplice, tenui.*

Diam. $4\frac{3}{4}$, alt. $2\frac{1}{2}$ mill.

Collected by Mr. Cuming on the island of Opara.

A paper was also read containing "Descriptions of thirty-six new species of *Helix*, belonging to the collection of H. Cuming, Esq.," by Dr. L. Pfeiffer:—

1. *HELIX INCEI*, Pfr. *Hel. testâ umbilicatâ, depresso-globosâ, solidulâ, striatâ, sub epidermide pallidè fulvâ albâ, fasciis angustis castaneis cingulatâ; spirâ elevatâ, acutiusculâ; anfractibus 7 vix convexiusculis, ultimo circa umbilicum mediocrem, pervium subcompresso; columellâ arcuatâ; aperturâ perobliquâ, lunato-ovali; peristomate albo, tenui, intus sublabiato, margine dextro vix expanso, basali reflexo, columellari in laminam triangularem dilatatâ, umbilicum semitegente.*

Diam. 38, alt. 28 mill.

- β . *Minor, epidermide castanea, fasciis indistinctis, anfractu ultimo basi flavo.*

Diam. 32, alt. 21 mill.

From North Australia, collected by Lieut. Ince, R.N.

2. *HELIX JONASI*, Pfr. *Hel. testâ imperforatâ, globoso-conoideâ, solidiusculâ, levigatâ, non nitens, pallidè virescens; spirâ obtusè conicâ; anfractibus 5 convexiusculis, ultimo basi subplanato; columellâ albâ, obliquâ; aperturâ lunari; peristomate breviter incrassato, margine columellari subdilatato, adpresso.*

Diam. 28, alt. 24 mill.

- β . *Tenuior, apice rubicundo, anfractu ultimo basi nigricante, fascia angusta, nigra ad suturam: H. dimera, Jonas.*

From the Philippine Islands, Mindoro.

3. *HELIX BUSCHI*, Pfr. *Hel. testâ imperforatâ, conico-globosâ, solidiusculâ, tenuiter striatâ, parùm nitidulâ, citrinâ; spirâ conoideâ, obtusiusculâ; anfractibus 5½ convexiusculis, ultimo rotundato; columellâ subobliquâ, strictâ, dilatatâ, albo-callosâ; aperturâ rotundato-lunari, intus nitidâ, concolore; peristomate tenui, albo, breviter expanso, margine basali cum columellari angulum formante.*

Diam. 23, alt. 23 mill.

From the island of Mindoro.

4. *HELIX PELODES*, Pfr. *Hel. testâ umbilicatâ, subglobosâ, tenuiusculâ, striatâ et minutè granulatâ, rubello-fusâ; spirâ brevi, obtusiusculâ; anfractibus 6 convexiusculis, ultimo inflato, anticè breviter descendente; umbilico mediocri, pervio; aperturâ lunato-orbiculari, intus margaritaceâ; peristomate expanso, saturatè carneo, margine columellari perdilatato, fornicatim reflexo.*

Diam. 31, alt. 20 mill.

From the north coast of Australia: found under decayed leaves (Lieut. Ince, R.N.).

5. *HELIX HARTWEGI*, Pfr. *Hel. testâ umbilicatâ, depressâ, carinatâ, solidulâ, striatulâ, fusâ; spirâ vix elevatâ; anfractibus 5 planulatis, ultimo basi pauld convexiore, anticè non descendente; umbilico angusto, pervio; aperturâ perobliquâ, irregulariter subquadratâ; peristomate albo, incrassato, breviter reflexo, margini-*

bus callo junctis, dextro sinuoso, basali subrecto, dilatato, introrsum calloso, dente unico interposito.

Diam. 23, alt. 12 mill.

From El Catamaija, near Loxa, republic of the Equator (Hartweg).

6. *HELIX LEPTOGRAMMA*, Pfr. *Hel. testá umbilicatá, globosá, tenui, striatá, lineis impressis, concentricis, confertis, sculptá, carneo-albidá, supernè fasciis 3-4 angustis, rufis ornatá; anfractibus 4½ convexiusculis, ultimo inflato, anticè breviter descendente; aperturá vix obliquá, rotundato-lunari, intus concolore; peristomate albo, simplice, breviter expanso, marginibus callo tenuissimo diffuso junctis, columellari valde dilatato, albo, nitido, reflexo, umbilicum angustum semioccultante.*

Diam. 17, alt. 13 mill.

From Cygnet Bay, North Australia (Lieut. Ince, R.N.).

7. *HELIX GILBERTI*, Pfr. *Hel. testá umbilicatá, depressá, distinctè striatá, minutissimè granulatá, tenui, pallidè corneá, lineá rufá ad suturam cinctá; anfractibus 4½ convexiusculis, ultimo basi convexo; umbilico mediocri, pervio; aperturá rotundato-lunari; peristomate simplice, recto, margine columellari parùm dilatato, reflexo.*

Diam. 16, alt. 9 mill.

From Darling Downs, East Australia (Gilbert).

8. *HELIX ZONITES*, Pfr. *Hel. testá umbilicatá, depressá, tenui, diaphaná, confertim costulato-striatá, lutescenti-corneá; spirá vix elatá; anfractibus 6 convexiusculis, regulariter accrescentibus, ultimo supra medium lineá rufá, ad apicem usque conspicuá ornato, basi laviore, subplanulato; umbilico mediocri, pervio; aperturá depressá, obliquè lunato-ovali; intus margaritaceá; peristomate simplice, recto, margine columellari breviter patente.*

Diam. 25, alt. 12½ mill.

Hab. Unknown.

9. *HELIX GRIFFITHI*, Pfr. *Hel. testá umbilicatá, globoso-depressá, solidiusculá, lavigatá, supernè leviter striatulá, corneo-lutescente; spirá breviter elevatá, conoidé; anfractibus 6 convexiusculis, ultimo ad suturam castaneo-marginato, ventroso; umbilico mediocri, pervio; aperturá vix obliquá, amplá, rotundato-lunari, intus margaritaceá; peristomate simplice, acuto, marginibus callo tenuissimo junctis, columellari breviter patente.*

Diam. 26, alt. 14 mill.

Locality unknown.

10. *HELIX KOCHI*, Pfr. *Hel. testá umbilicatá, globoso-depressá, solidulá, obliquè distinctè striatá, albidá, fasciis pluribus rufis ad peripheriam ornatá; spirá parùm elevatá, obtusiusculá; anfractibus 6 convexis, sensim accrescentibus, ultimo subcylindrico; umbilico magno, pervio; aperturá lunato-orbiculari, intus concolore, nitidá; peristomate simplice, acuto, marginibus conniventibus dextro antrorsum arcuato, columellari dilatato, patente.*

Diam. 30, alt. 16 mill.

Locality unknown.

11. *HELIX VARIOLOSA*, Pfr. *Hel. testá perforatá, depressá, acutè carinatá, solidulá, opacá, lutescente, supernè confertissimè plicatá, lineisque concentricis irregulariter decussatá, pustulis albis subfasciatim obsitá; spirá planiusculá; anfractibus 3½ vix convexiusculis, rapide crescentibus, ultimo basi convexo, infra carinam compresso; columellá brevi, verticali; aperturá latè securiformi; peristomate simplice, acuto, margine columellari breviter reflexo.*

Diam. 23, alt. 10 mill.

Locality unknown.

12. *HELIX INDUTA*, Pfr. *Hel. testá perforatá, lenticulari, acutè carinatá, solidá, supernè confertim plicato-striatá, lineis confertis concentricis decussatá, subtùs striatá, spadiceá, basi pallescente, circa perforationem castaneo-areolatá, epidermide tenuissimá corneo-grised undique indutá; anfractibus 5 planis, sensim accrescentibus; aperturá subrhombéd; peristomate simplice, margine columellari vix reflexiusculo.*

Diam. 21, alt. 11 mill.

Locality unknown.

13. *HELIX BILINEATA*, Pfr. *Hel. testá umbilicatá, depressá, tenui, nitidá, pellucidá, lavigatá, lutescenti-corné; spirá planiusculá; suturá striolatá; anfractibus 5 vix convexiusculis, regulariter crescentibus, ultimo subdepresso, lineis 2 castaneis, alterá supra peripheriam, alterá suturali ad apicem usque conspicuá ornato; umbilico angusto; aperturá obliquè lunari; peristomate simplice, acuto, margine columellari brevissimè reflexo.*

Diam. 15, alt. 7 mill.

Locality unknown.

14. *HELIX BELCHERI*, Pfr. *Hel. testá latè umbilicatá, depressá, tenui, diaphaná, supernè confertim costulato-striatá, subtùs sublavigatá, nitidá, concolore corneo-ceré; spirá vix convexá; anfractibus 5 vix convexiusculis, ultimo basi subplanulato; aperturá obliquá, lunato-ovali; peristomate simplice.*

Diam. $8\frac{1}{3}$, alt. 4 mill.

Locality unknown. Brought by the 'Sulphur,' Capt. Belcher.

15. *HELIX CERATODES*, Pfr. *Hel. testá subperforatá, globoso-depressá, tenui, minutè striatá, nitidulá, pellucidá, corné; spirá paràm elevatá; anfractibus 5 subplanulatis, celeriter crescentibus, ultimo subdepresso; aperturá amplá, obliquè lunari; peristomate simplice, acuto, margine columellari breviter reflexiusculo, perforationem ferè occultante.*

Diam. $16\frac{1}{2}$, alt. 9 mill.

Collected on the islands of Luzon and Mindoro, by H. Cuming, Esq.

16. *HELIX SPLENDIDULA*, Pfr. *Hel. testá latè umbilicatá, depres-*

sissimâ, pallidè olivaceo-cornèâ, nitidâ, striatâ, lineis concentricis, magis minusve distinctis obsoletè reticulatâ; spirâ planâ; suturâ profundâ; anfractibus $3\frac{1}{2}$ subplanulatis, celeriter crescentibus, ultimo lato; umbilico lato, perspectivo; aperturâ obliquâ, lunato-ovali; peristomate simplice, acuto, marginibus conniventibus, dextro obliquè descendente, antrorsum subarcuato.

Diam. $8\frac{1}{2}$, alt. $3\frac{1}{3}$ mill.

Hab. East Australia, near Torres Strait (Lieut. Ince, R.N.).

17. *HELIX PAPILLATA*, Pfr. *Hel. testâ umbilicatâ, depressâ, subdiscoideâ, solidiusculâ, irregulariter striatâ, opacâ, albidâ, spadiceo nebulosâ, saturatiusque strigatâ et maculatâ; spirâ planâ, apice papillatim prominente; anfractibus 5 planiusculis, ultimo descendente, depresso-rotundato; umbilico angusto, pervio; aperturâ obliquâ, lunato-orbiculari; peristomate simplice, acuto, margine columellari vix dilatato.*

Diam. 23, alt. 11 mill.

Locality unknown.

18. *HELIX SPIRULATA*, Pfr. *Hel. testâ imperforatâ, depressâ, lenticulari, subtilissimè striatâ, lineis elevatis concentricis utrinque notatâ, tenui, fulvâ, carinatâ; carinâ compressâ, subexsertâ; spirâ parùm elevatâ; anfractibus 5 lentè crescentibus, supra carinam convexiusculis, ultimo basi vix convexo, medio impresso; aperturâ depressâ, subrhomboidè; peristomate simplice, acuto.*

Diam. 9, alt. 4 mill.

Hab. Real Llejos, Central America; found on trunks of trees (Cuming).

19. *HELIX INSCULPTA*, Pfr. *Hel. testâ imperforatâ, depressâ, utrinque convexiusculâ, acutè carinatâ, solidulâ, castaneâ, supernè costulis confertis et lineâ spirali, carinæ parallelâ, insculptâ; anfractibus 5 planulatis, ultimo basi lævigato, juxta carinam lineâ impressâ notato; columellâ dente unico brevi, acuto, albo munitâ; aperturâ depressâ, securiformi; peristomate simplice.*

Diam. 8, alt. 4 mill.

Locality unknown.

20. *HELIX SINAITENSIS*, Pfr. *Hel. testâ umbilicatâ, orbiculato-convexâ, tenui, confertim striatâ, cornèâ; spirâ convexâ, obtusâ; anfractibus 7 angustis, vix convexiusculis, carinâ filiformi cinctis, ultimo basi convexiore; umbilico lato, perspectivo; aperturâ rotundato-lunari; peristomate simplice, margine supero brevi, recto, basali valdè arcuato, breviter reflexo.*

Diam. 10, alt. 4 mill.

From Sinait, province of North Ilocos, isle of Luzon (Cuming).

21. *HELIX ANDICOLA*, Pfr. *Hel. testâ umbilicatâ, depressâ, tenui, undique granulatâ, opacâ, corneo-albidâ, fasciis pluribus rufis interruptis, denticulatis vel maculoso-tessellatis tæniatâ, interstitiis rufo-flammulatis; spirâ planâ; anfractibus 4 convexis, ultimo dilatato, rotundato; aperturâ rotundato-lunari; peristomate tenui,*

marginibus callo tenui junctis, supero breviter expanso, basali reflexiusculo, columellari dilatato, reflexo, umbilicum angustum semitegente.

Diam. 20, alt. 11 mill.

From the Eastern Cordilleras.

22. *HELIX HIANIS*, Pfr. *Hel. testá subobtectè perforatá, depressá, tenui, pellucidá, nitidiusculá, undique regulariter et confertim granulatá, pallidè corneá, strigis angustis, rufis, approximatis, undulatis, interdum ramosis, et ad suturam fasciá pallidá, maculis irregularibus rufis tessellatá ornatá; spirá planá; anfractibus $4\frac{1}{2}$ convexis, ultimo inflato, subcompresso, anticè vix descendente; aperturá subobliquá, amplá, lunato-rotundatá, intus concolore; peristomate tenui, expanso, marginibus distantibus, supero expanso, basali breviter reflexo, columellari membranaceo-dilatato, fornicatim reflexo, perforationem tegente.*

Diam. 25, alt. 12 mill.

Locality unknown.

23. *HELIX RECTANGULA*, Pfr. *Hel. testá imperforatá, orbiculato-conicá, solidá, striatulá, griseo-stramineá, areá basali, lineá suturali et fasciis latis castaneis ornatá; spirá elevatá, obtusá; anfractibus $6-6\frac{1}{2}$ convexiusculis, ultimo subrectangulè carinato, basi planiusculo, medio subexcavato; aperturá depressá, subtrapeziá, margine columellari incrassato, calloso-subunidentato.*

Diam. 13, alt. 10 mill.

From the Marquesas islands (M. Rohr).

24. *HELIX NYSTIANA*, Pfr. *Hel. testá latè umbilicatá, depressá, subdiscoideá, tenui, sub lente minutissimè granulato-striatá, haud nitente, pallidè corneá, fasciis angustis, rufis 3-4 circumdatá; spirá vix elevatá; anfractibus 4 convexis, ultimo anticè subdeflexo, basi vix latiore; umbilico latissimo; aperturá perobliquá, suborbiculari; peristomate simplice, marginibus ferè contiguis, supero recto, basali breviter reflexo.*

Diam. 11, alt. 4 mill.

From Real Itejos, Central America (Cuming).

25. *HELIX NILAGIRICA*, Pfr. *Hel. testá latè umbilicatá, depressá, discoideá, striatá, corneo-albidá, lineá unicá rufá supra peripheriam cinctá; spirá planiusculá; anfractibus 5 convexiusculis, lentè accrescentibus, ultimo anticè abruptè deflexo; umbilico latissimo, anfractum penultimum latè monstrante, medio angusto, pervio; aperturá parvâ, horizontali, rotundato-ovali; peristomate albo, sublabiato, reflexo, marginibus contiguis.*

Diam. $14\frac{1}{2}$, alt. $5\frac{1}{2}$ mill.

From the Neelgherries, East Indies.

26. *HELIX TUMIDA*, Pfr. *Hel. testá imperforatá, globosá, solidá, rugoso-striatá, nitidiusculá, sub epidermide sordidè viridi, saturatius radiatá albâ; spirá parvâ, elevatá; anfractibus 5 tumidis, ultimo permagno; columellâ subverticali, elongatâ, basi subtortâ,*

albo-callosa; aperturá amplá, lunato-rotundatá, intus cærulescente; peristomate simplice, recto, margine dextro arcuato, basali cum columellá angulum formante.

Diam. 27, alt. 21 mill.

Locality unknown.

27. *HELIX CAUCASICA*, Pfr. *Hel. testá umbilicatá, globoso-depressá, tenui, subtiliter rugoso-striatá, sub lente granulatá, corneo-albidá, pellucidá, fasciá latá, subopacá ad suturam, angustiore albidá ad peripheriam ornatá; anfractibus 6 convexiusculis, ultimo anticè subdeflexo; aperturá lunato-rotundatá; peristomate acuto, expanso, intus callo albo, acuto labiato, margine columellari dilatato, umbilicum angustum, pervium semitegente.*

Diam. 16, alt. 10 mill.

From the Caucasus.

28. *HELIX KNYSNAENSIS*, Pfr. *Hel. testá umbilicatá, globosá, solidiusculá, costulato-striatá, sericiná, corneo-olivaceá; spirá brevi, obtusá; anfractibus 4 convexiusculis, ultimo inflato, basi sublavigato, nitidissimo; umbilico angusto, pervio; aperturá rotundato-lunari, intus margaritaceá; peristomate simplice, acuto, margine columellari supernè dilatato, patente.*

Diam. 24, alt. 16 mill.

From Knysna, Cape of Good Hope.

29. *HELIX JENYNSI*, Pfr. *Hel. testá subperforatá, turòiniformi, striatuld, tenui, nitidá, carinatá, lacteá, supra carinam fusco-unifasciatá; spirá brevi, conicá, acutá; anfractibus $5\frac{1}{2}$ vix convexiusculis, ultimo basi convexiore; aperturá angulato-lunari; peristomate simplice, acuto, margine columellari supernè reflexiusculo, perforationem ferè claudente.*

Diam. 12, alt. $7\frac{1}{2}$ mill.

Locality unknown.

30. *HELIX BRONNI*, Pfr. *Hel. testá imperforatá, semiglobosá, striatuld, sub lente punctatá, nitiduld, castaneá, apice obtuso pallidá; anfractibus 5 convexiusculis, ultimo obsolete carinato, basi planiusculo, granulato, cærulescenti-albido, infra carinam fascia 1 castaneá ornato, anticè deflexo, profunde scrobiculato; aperturá subhorizontali, elliptico-oblongá; peristomate latè incrassato, marginibus callo tenui junctis, basali dilatato, reflexo, fusco-maculato, intus 4 dentato; dentibus 2 anticis majoribus, compressis, à margine remotis.*

Diam. 25, alt. 15 mill.

From Jamaica; sent by Mr. Adams with *H. sinuata*, Born, to which it is nearly allied.

31. *HELIX VENTROSULA*, Pfr. *Hel. testá rimato-perforatá, depresso-globosá, tenui, subtiliter striatá, pellucidá, corneo-albidá; spirá vix elevatá; anfractibus $5\frac{1}{2}$ vix convexiusculis, ultimo subito deflexo, supernè subangulato, basi inflato, anticè gibbo et valde constricto; aperturá perobliquá, ringente; peristomate acuto, latè*

reflexo, marginibus vix conniventibus, laminas elevatas, in ventre anfractus penultimi angulatim junctas emittentibus, dextro lamina subperpendiculari dilatata, basali dentibus 2 acutis munito.

Diam. 13, alt. $7\frac{1}{2}$ mill.

From Mexico (Hinds), and Texas (Sowerby).

32. *HELIX HINDSI*, Pfr. *Hel. testâ umbilicata, depressâ, subtiliter striatâ, corneo-lutescente, diaphanâ, nitidâ; spirâ parùm elevata; anfractibus 5 planiusculis, ultimo basi convexiore, anticè supernè deflexo, subtùs constricto; umbilico angusto, pervio; aperturâ perobliquâ, lunari, ringente; peristomate breviter reflexo, marginibus conniventibus, callo triangulari, dentiformi, bicurvè junctis, dextro lamellâ subverticali, basali dentibus 2 acutis munito.*

Diam. 8, alt. $4\frac{1}{2}$ mill.

From Mexico (Hinds), and Texas (Sowerby).

33. *HELIX HEDENBORGI*, Pfr. *Hel. testâ subperforatâ, depressissimâ, subdiscoideâ, acutè carinatâ, tenuiusculâ, confertim rugoso-striatâ, supernè albido et fusco-variegatâ, basi subunicolore fuscescente; spirâ vix elevata; anfractibus $5\frac{1}{2}$ planis, non exsertis, ultimo basi vix ventrosiore, anticè non descendente; aperturâ depressâ, angulato-lunari; peristomate tenui, marginibus subparallelis, supero recto, basali breviter reflexo, columellari vix dilatato, reflexo, adpresso.*

Diam. 18, alt. 6 mill.

On cliffs at the river Baher el Killo, at the Road of Marc Aurel, Egypt (Dr. Hedenborg).

34. *HELIX PLATYODON*, Pfr. *Hel. testâ imperforatâ, depressoturbinatâ, minutissimè granulato-striatâ, albâ, fasciis fuscis, albo-guttatis ornatâ; spirâ elevata, obtusiusculâ; anfractibus 6 vix convexiusculis, ultimo basi subplanulato, anticè deflexo; aperturâ perobliquâ, lunato-ovali, intus albâ; peristomate latè expanso, reflexo, marginibus callo albo junctis, columellari perdilatato, adpresso, dente lato compresso munito.*

Diam. 30, alt. 19 mill.

Locality unknown.

35. *HELIX RETUSA*, Pfr. *Hel. testâ imperforatâ, subglobosâ, apice retuso, tenui, lævigato, basi concentricè striolatâ, castaneo-fulvâ, albo latè strigatâ et flammulatâ, epidermide hydrophanâ, albidâ, deciduâ partim indutâ, sursùm pallescente, castaneo-fusciatâ; spirâ brevi; anfractibus 4 convexiusculis, ultimo subangulato, vix descendente; columellâ intrante, albâ, supernè dentato-dilatatâ; aperturâ rotundato-lunari, intus margaritaceâ; peristomate latè expanso.*

Diam. 28, alt. 20 mill.

From the island of Samar; found on leaves of trees (H. Cuming).

36. *HELIX PRATENSIS*, Pfr. *Hel. testâ umbilicatâ, orbiculato-convexâ, ruguloso-striatâ, albidâ, fasciis 2 castaneis cinctâ vel subunicolore; spirâ subelevatâ; anfractibus 6 convexiusculis, ultimo*

anticè via descendente; umbilico mediocri, pervic; aperturâ rotundato-lunari; peristomate expanso, intus remotè albo-labiato, marginibus conniventibus, columellari subdilato, patente.

Diam. 17, alt. $9\frac{1}{2}$ mill.

From the banks of the river Tortoom (As. Russ.); found in damp meadows.

“On the Growth and Re-calcification of the Shell in *Cypræa*, a genus of Pectinibranchiate Mollusca”:—

The *Cypræa* is a mollusk of very peculiar character: first, on account of the different phases presented by its shell at different periods of growth; and, secondly, on account of the curious property which the animal possesses of dissolving and renewing its shell. The original growth of the Cowry is, undoubtedly, a process of time; but the re-calcification of a shell at maturer age appears to be the work of a few days only.

The first stage of advancement produces a simple convolution of shell around a columella axis in the form of a long drawn-out Bulla, the columella being smooth, the outer lip thin, and the colour usually diffused in bands of waves. In the second epoch of growth the shell solidifies, the lip and columella begin to thicken, and present gradual indications of teeth, the teeth become more and more perfectly developed, and the dorsal surface is overlaid with a strong coat of livid colouring matter also diffused in obscure bands or waves. The calcifying energies of the mantle, which, extending in two unequal lobes, one from either side of the shell's aperture, have been chiefly exercised during the second epoch of growth upon the dorsal surface, are now more particularly directed to the base and sides. The teeth are strengthened, the sides become thickened with a rich coating of enamel, and the growth of the shell is completed by a light fabric of colouring matter deposited in lines, blotches, waves, or reticulations, of various hues and patterns.

The re-calcification of a shell at maturer age has been a subject of some difference of opinion amongst naturalists. Bruguière first introduced the fact, and Lamarck says, “I possess observations which tend to prove that the Cowry, arrived at the power of forming a complete shell, has still the faculty of enlarging its habitation, and is then obliged to quit the shell in order to form a new one. It results from this that the same individual has the power of forming a successive number of shells during both the second and third stages of growth, and which accounts for our often meeting with so many different sizes of the same species”!

M. Deshayes, after furnishing us with an excellent account of the zoological characters of *Cypræa*, derived mainly from the observations of MM. Quoy and Gaimard, argues against the possibility of any remodelling of the shell taking place, and regards the statement of Lamarck as a theory opposed to the common laws of organization. To the supposition of Bruguière that the Cowries cast their shells after the manner of Crabs, M. Deshayes very properly replies that there can be no analogy between them. The new shell of the

Crustacea is formed by a secretion of equal consistency from every part of the body, whereas the *Mollusca* have a muscular attachment to the columella, and increase the growth of their shell by an exudation, not from the whole body, but from a particular organ; the mantle being the sole agent charged with that faculty. It is further argued by the same distinguished naturalist that the Cowry must lose the power of forming the inner chambers of the columella anew, after having once passed that early process of development which induces their formation. "How is it possible," asks M. Deshayes, "that the animal can, under the circumstances of its nature, secrete a new shell from all parts of the body at once, and with all the different phases of colour exhibited in the original, when it has reached to an advanced condition of its existence?"

It is, however, certain that the Cowry is enabled to effect a very important change in the shell during one or more periods of its life; and I think the fact may be fully established without prejudice to the excellent arguments of my illustrious contemporary. From the testimony of a gentleman who worthily employs the opportunities afforded him as a Naval Officer to the advancement of science, whose veracity is beyond all question, and whose communication (given verbatim)* contains nothing more than a simple narrative of the phenomena of which he was himself an eye-witness, it may, I think, be deduced that it is the outer wall of the shell only which is reconstructed, the columella, with its spiral compartments, remaining undisturbed. The animal does not quit the shell, as Lamarck supposed, but dissolves the outer portion with its acetose juices. All visible trace of the shell may be thus removed without weakening M. Deshayes' proposition, founded on the circumstance of the mantle being the only organ charged with the secretive fluid. The mantle is always capable of extension over the shell, and the same power

* Lieut. J. B. Hankey, R.N., to Lovell Reeve.

My dear Sir,

H.M.S. Collingwood, August 6th, 1844.

Will you allow me to offer you a few remarks on the habits of the *Cypræa* as regards the fact of its making a new shell, at an advanced age, of which process I have been myself in more than one instance an eye-witness? I have seen the Cowry crawl into some hollow or sheltered place, evidently for some predetermined purpose. The growth of the animal appears to increase too large for its cell; it gradually swells and cracks the shell, and I think that some powerful solvent or decomposing fluid is distributed over the outer surface by the mantle of the fish, for it gets thinner in substance, and the colours duller in appearance. The shell then entirely disappears, the Cowry becomes, to all appearance, a naked mollusk, with no other covering than its membranous mantle, and in a short time secretes a thin layer of glutinous matter which in a few days obtains the fragile consistency of shell-lac. From this step its growth is more rapid, and it becomes more and more consolidated into the adult shell. When in the first stage of renewal it has the appearance of shell-lac it is always of the *Cymba* form, but I have never succeeded in preserving any specimens in this state on account of their extreme fragility.

Trusting that you may make some use of these notes, and that (as I have a good dredge with me) I may, like Mr. Cuming, succeed in bringing home something worthy of notice, I shall conclude myself, my dear sir,

Yours very truly,

JOHN B. HANKEY.

which furnishes the adult with its last coating of enamel can be exerted to the formation of as many superincumbent layers as may be necessary to replace all that has been decomposed. That a dissolution takes place there can be no doubt: "the shell gradually swells," says Lieut. Hankey, "and cracks, becomes thinner, and duller in colour, and finally disappears;" a circumstance which may be easily credited when it is remembered that the *Murex* possesses the faculty of removing spines or any similar obstacles to its advancement of growth, and that the *Pholades* and other terebrating mollusks exercise a power of absorbing which enables them to penetrate the hardest limestone rock. The microscopical structure of the Cowry shell is, moreover, of a nature peculiarly tenacious of absorption; it is composed of a large quantity of carbonate of lime in proportion to the amount of membranous substance; and this accounts for its surface becoming vitrified, as it were, to such a highly polished state of enamel when in contact with the acidity of the soft parts.

There is another circumstance in Lieut. Hankey's narrative to which attention should be given, respecting the formation of the new shell. The glutinous matter, which has the appearance of shell-lac, and is so fragile that it yields to the touch, does not assume the narrow cylindrical *Bulla* form; it does not follow the original plan of revolving round a columellar axis, but is of the wide ventricose shape of a *Cymba*, and rapidly consolidates into the adult shell.

With these generalizations I think it may be assumed that the Cowry possesses the faculty of decomposing, during one or more periods of its existence, any portion of the shell that is liable to resist its advancement of growth; that the renewal of the shell is accomplished within a comparatively short space of time; and that the columella with its internal spiral partitions remains undisturbed. It may, however, be inferred that it is an operation of extremely rare occurrence, and one which only happens under peculiar conditions.

December 9, 1845.

William Yarrell, Esq., Vice-President, in the Chair.

A paper was read containing "Descriptions, by Dr. L. Pfeiffer, of new species of Land-Shells from Jamaica, collected by Mr. Gosse."

1. *HELIX PTYCHODES*, Pfr. *Hel. testâ umbilicatâ, depressissimâ, discoided, tenuissimâ, arcuato-plicatâ, sub epidermide tenui, fuscâ, deciduâ hyalinâ; spirâ planiusculâ; anfractibus 4½—5 planulatis, ultimo basi vix convexiore; umbilico mediocri; aperturâ perobliquâ, amplâ, angulato-lunari; peristomate simplice, acuto.*
Diam. $10\frac{1}{3}$, alt. $3\frac{1}{3}$ mill.

2. *BULIMUS GOSSEI*, Pfr. *Bul. testâ rimatâ, turrito-cylindraced, obliquè costulatâ, albidâ, opacâ, strigis semilunaribus, punctisque pellucidis corneis ornatâ; spirâ cylindracedâ, apice attenuato, acuto; suturâ crenulatâ; anfractibus 11 convexis, ultimo ¼ longitudinis vix superante, rotundato, basi subangulato; aperturâ suborbiculari; peristomate breviter expanso, marginibus approximatis, columellari reflexo, patente.*

Long. 11, diam. $3\frac{2}{3}$ mill.

Nearly allied to *Bul. unicarinatus* and *Bul. turricula*.

3. *CYLINDRELLA GOSSEI*, Pfr. *Cyl. testâ subcylindraced, sursum attenuatâ, non truncatâ, tenui, diaphanâ, obliquè et arcuatim leviter costulatâ, pallidè corned vel albidâ; anfractibus 16 vix convexiusculis, ultimo basi acutè carinato, non protracto; aperturâ oblongâ, basi subangulatâ; peristomate simplice, tenui, breviter expanso, marginibus vix junctis.*

Long. 21, diam. 4 mill.

4. *GLANDINA JAMAICENSIS*, Pfr. *Gland. testâ fusiformi-turritâ, confertim et verticaliter costatâ, nitidâ, albidâ, strigis raris rufis ornatâ; spirâ turritâ, acutiusculâ; suturâ crenulatâ, submarginatâ; anfractibus 10 planiusculis, ultimo ½ longitudinis subæquante, plurivaricoso, infra medium sublævigato, attenuato; columellâ subrectâ, basi obliquè truncatâ; aperturâ angustâ, semiovali.*

Long. 22, diam. 7 mill.

5. *GLANDINA CURVILABRIS*, Pfr. *Gland. testâ oblongo-turritâ, solidiusculâ, confertissimè costulatâ, diaphanâ, nitidâ, luteo-corned, remotè albido-strigatâ; spirâ turritâ; suturâ marginatâ; anfractibus 8 planiusculis, ultimo ¾ longitudinis subæquante, anticè medio impresso; columellâ verticali, ad basin aperturæ abruptè truncatâ; aperturâ angustâ, oblongâ; peristomate albido-limbato, margine dextro antrorsum curvato.*

Long. 16, diam. 5 mill.

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6. *GLANDINA ARCUATA*, Pfr. *Gland. testá fusiformi-turritá, tenuiusculá, nitidá, subarcuatim et confertim costulatá, succineo-flavidá, strigis angustis, remotis, arcuatis, rufis, pallidè marginatis ornátá; spirá subulatá, acutá; suturá crenulatá; anfractibus 9 planis, ultimo $\frac{1}{3}$ longitudinis subæquante; columellá strictiusculá, breviter truncatá; aperturá oblongá; peristomate simplice.*

Long. 13, diam. $3\frac{1}{2}$ mill.

7. *ACHATINA ADAMSI*, Pfr. (*Bul. costulatus*, Adams). *Ach. testá fusiformi-turritá, longitudinaliter distinctè costatá, inter costas basi anfractibus ultimí evanescentes subtilissimè striatá, corneá, strigis rufis irregulariter ornátá; spirá turritá, apice acuto; anfractibus 8 convexis, ultimo $\frac{1}{3}$ longitudinis subæquante; columellá subrectá, basi obliquè truncatá; aperturá subrhombé.*

Long. 7, diam. $2\frac{1}{2}$ mill.

8. *ACHATINA GOSSEI*, Pfr. *Ach. testá subulatá, tenui, diaphaná, cerné, remotè costatá, inter costas in anfractibus ultimis deorsum obsolescentes subtilissimè striatá; anfractibus 9—10 convexiusculis, ultimo $\frac{1}{4}$ longitudinis vix superante; columellá obliquá, basin aperturæ attingente, breviter truncatá; aperturá angustá, oblongá; peristomate simplice, margine dextro deorsum dilatato.*

Long. 12, diam. $2\frac{2}{3}$ mill.

9. *ACHATINA ABERRANS*, Pfr. *Ach. testá subulatá, tenui, nitidá, lineis impressis longitudinalibus, regulariter distantibus notatá, pallidè succineá, strigis rufis, angustis, obliquis, sparsis ornátá; spirá subulatá, apice acutiusculá; suturá leviter crenulatá; anfractibus 7 planiusculis, ultimo $\frac{1}{3}$ longitudinis æquante; columellá callosá, torto-subtruncatá; aperturá oblongá; peristomate simplice.*

Long. 7, diam. 2 mill.

This species belongs to a peculiar aberrant group of the genus *Achatina*, of which the type seems to be *Ach. columnaris*. The columella is not exactly truncated, but rather contorted, and forms a prominent angle, which appears similar to the truncated columella of the true *Achatinas*. To this same group may be referred another very distinct and beautiful species, collected by Mr. Latre in Central America, and making, like all formerly described species, part of the rich collection of Mr. Cuming.

10. *ACHATINA LATTREI*, Pfr. *Ach. testá glandiformi, lævissimá, nitidá, fulvá, strigis castaneis leviter arcuatis irregulariter ornátá; spirá brevi, conoidé, acutiusculá; anfractibus 7 planis, ultimo $\frac{3}{4}$ longitudinis ferè æquante; columellá callosá, contortá, extus subtruncatá; aperturá angustissimá, basi dilatatá; peristomate simplice, obtuso, margine dextro antrorsum leviter arcuato.*

Long. 38, diam. 14 mill.

A paper by Dr. Philippi was then read, containing "Descriptions of a new species of *Trochus*, and of eighteen new species of *Littorina*, in the collection of H. Cuming, Esq.":—

TROCHUS CUMINGII. *Tr. testá latè conicá, umbilicatá, acutá, car-*

neo-cinereâ; anfractibus convexiusculis, transversè striatis, et serie triplici spinularum ornatis; spinis supremis solidis compressis, medianis fornicatis majoribus, infimis fornicatis confertissimis; aperturâ suborbiculari, violacescente; margine umbilicî acuto, prominente.

Altit. 8, diam. 8, altit. aperturæ $4\frac{3}{4}$ lin.

Hab. Guimaras, insula Philippinarum.

This very interesting species was found on rocks at high water-mark; its operculum is orbicular, horny, and consists of 5-6 volutions.

1. LITTORINA LEMNISCATA. *Lit. testâ parvâ, ovato-oblongâ, nigrâ, striis transversis et lineâ triplici, elevatâ, moniliformi sculptâ; anfractibus planiusculis; basi nodulosâ; aperturâ spiram non æquante, nigrâ, basi albo-fasciatâ; columellâ depressâ, basi sub-effusâ.*

Altit. $4\frac{1}{2}$, diam. 3, altit. aperturæ $2\frac{1}{2}$ lin.

Hab. Cuba?

2. LITTORINA ASPERA. *Lit. testâ oblongâ, acutâ, crassâ, fuscescente, lineis nigricantibus longitudinalibus obliquis pictâ, ad basin sùb-angulatâ; anfractibus parùm convexis, liris elevatis transversis sculptis; aperturâ ovatâ, fuscâ, fasciis duabus albidis; labro intus albido, fusco-punctato.*

Altit. 8, diam. $5\frac{1}{2}$, altit. aperturæ $4\frac{1}{2}$ lin.

Hab. Ad oram occidentalem Americæ borealis (from Sitka, New Albion, found on rocks at low water by Mr. Barclay; from Mexico, found by Hegewisch; from Conchagua, province of San Salvador, Central America, Cuming). By the character of its aperture, this species belongs to the group of *L. ziczac*, *L. zebra* (*Phasianella peruviana*, Lamarek), and is easily distinguished from all allied species by its sculpture.

3. LITTORINA PICTA. *Lit. testâ parvâ, ovatâ, acutâ, basi obscure angulatâ, transversim striatâ; fasciâ ad partem superiorem anfractuum, aliâque ad basin albis, lineis fuscis longitudinalibus pictis; aperturâ semiorbiculari, fuscâ, basi albo-fasciatâ; columellâ satis compressâ ferè rectilineâ.*

Altit. 4, diam. 3, altit. aperturæ $2\frac{1}{2}$ lin.

Hab. ad insulas Sandwich.

Var. β . *Anfractibus supernè angulatis, parte medianâ anfractûs ultimi albido-marmoratâ.*

This species has nearly the shape and size of *L. Basteroti* (*Turbo petraeus*, *Turbo cærulescens*, etc.), which I believe the true *Turbo neritoides* of Linnaeus, and the colouring of the interrupted variety of *L. ziczac*.

4. LITTORINA PORCATA. *Lit. testâ parvâ, ovatâ, obtusiusculâ, umbilicatâ, è cærulescente-albidâ, lineis elevatis distantibus porcatâ; aperturâ magnâ, ovatâ, semiorbiculatâ; faucibus fuscis, albo-bifasciatis; limbo labri albo.*

Altit. 3, diam. $2\frac{1}{2}$, altit. aperturæ 2 lin.

Hab. ad insulas Gallapagos (on high exposed rocks); Cuming.

5. *LITTORINA SITKANA*. *Lit. testâ transversim ovatâ, obtusiusculâ, castaneâ, transversim grossè sulcatâ; anfractibus rotundatis, ultimo dilatato; aperturâ ovatâ, patulâ; columellâ albâ, vix dilatâ, sulco umbilicari exaratâ.*

Altit. 6, diam. 6, altit. aperturæ $4\frac{1}{2}$.

Hab. ad Sitka, Nova Albion (on rocks, half-tide); collected by Mr. Barclay.

Very nearly allied to *L. groenlandica*, but more depressed, blunt, the aperture more dilated. The elevated transverse lines are three in number on the upper volutions, about twelve on the last.

6. *LITTORINA GLABRATA*. *Lit. testâ ovato-oblongâ, acutâ, albido-carned, strigis pallidè fuscis obliquis pictâ; anfractibus parùm convexis, lævibus, supremis sub lente lineis impressis 6-8 exaratis, ultimo basi angulato; aperturâ ovatâ, rufâ; columellâ depressâ, violacèâ.*

Altit. $8\frac{1}{2}$, diam. 6, altit. aperturæ $4\frac{1}{2}$ -5 lin.

Hab. ad Payta Peru (on rocks, half-tide); Cuming. Ad Caput Natale (Wahlberg).

Perhaps only a variety of *L. obesa*, Sow., though easily distinguished by the pale oblique longitudinal lines: very like *L. ziczac*, D'Orb. (non Chemn.)

7. *LITTORINA LÆVIS*. *Lit. testâ ovato-oblongâ, acutâ, albidd, cinereo-marmoratâ; anfractibus parùm convexis, lævissimis (sub lente fortiori vix tenuissimè striatis); ultimo basi obscurè angulato; aperturâ ovatâ, fusco-violacèâ, basi albido-fasciatâ; columellâ depressâ, violacèâ.*

Altit. $8\frac{1}{2}$, diam. 6, altit. aperturæ 5 lin.

Hab. Unknown.

This species scarcely differs, except in colouring, from *L. obesa*.

8. *LITTORINA DEBILIS*. *Lit. testâ parvâ, ovato-oblongâ, acutâ, tenui, cærulescente-albidd, interdum lineis obliquis pallidissimè fuscis pictâ, apice obscuro; anfractibus læviusculis (sub lente lineis confertis impressis sculptis), ultimo basi angulato; aperturâ ovato-oblongâ, rufâ, basi productâ et subangulatâ; columellâ parùm depressâ, fuscescente.*

Altit. $4\frac{1}{2}$, diam. 3, altit. aperturæ $2\frac{1}{2}$ lin.

Hab. Unknown.

A *L. glabrata* in miniature; it differs however essentially from that species by its aperture, which is produced into a distinct angle at the base.

9. *LITTORINA SAYI*. *Lit. testâ ovato-oblongâ, acutâ, solidiusculâ, transversim multisulcatâ, albâ, punctis pallidè rufis ornatâ; spirâ violacescente; anfractibus convexusculis, suturâ profundâ divisâ; aperturâ ovato-orbiculari; columellâ rufâ; labro intus albo.*

Altit. 9, diam. $6\frac{1}{2}$, altit. aperturæ 5 lin.

Hab. ad Floridam (communicated by Say).

Very nearly allied to *L. irrorata*, but thinner, more slender, the aperture not narrowed, nor the outer lip mottled within.

10. *LITTORINA MODESTA*. *Lit. testâ ovato-oblongâ, acutâ, tenuiusculâ, albâ, aut obsoletè rufo-punctatâ, profundè transversim sulcatâ; anfractibus convexiusculis, suturâ profundâ divisâ, ultimo haud carinato; aperturâ semiorbiculari, luteâ vel fusco infuscatâ; columellâ ferè rectilinéâ, dilatâ, depressâ, infuscatâ; anfractu ultimo ad columellam eroso.*

Altit. 8, diam. 6, altit. aperturæ 5 lin.

Hab. ad Sitka, Nova Albion (on rocks, half-tide), Mr. Barclay; ad insulam Mauritiî, Capt. Caldwell.

This species has the sculpture of *L. aspera*, the shape and colour of *L. Sayi*.

11. *LITTORINA INTERMEDIA*. *Lit. testâ oblongo-conicâ, basi ventricosâ, tenui, varii coloris, lineis impressis circa 8 in anfractu penultimo exarata, levi; anfractibus convexis, ultimo rotundato haud carinato; aperturâ ovatâ; columellâ albâ vel violaceâ, foveâ exarata.*

Altit. 10, diam. $7\frac{1}{2}$, altit. aperturæ $5\frac{1}{2}$ lin. et minor.

Hab. Mare Rubrum, ad oram Natal; Swan Point, in Novâ Hollandiâ boreali; Jimamailan, in insula Negrorum; Tahiti; insula Elisabeth in Oceano Pacifico (Cuming).

This species is intermediate between *L. scabra* (*Helix scabra*, L. not auct.) and *L. angulifera*, Lamk., not Quoy and Gaim.; it has the shape and colouring of the latter, which is easily known by its very numerous impressed spiral lines. With *L. scabra* it agrees in the number of the impressed lines, but differs by its smoothness to feeling and by the absence of the basal keel. This latter character distinguishes it from *L. luteola*, Q. et G., a species which, however, I have not seen in nature. It is very variable in colouring, and we may distinguish principally the following varieties:—

1. *punctata, testâ lutescente aut rufescente, lineis transversis fuscis irregulariter interruptis punctatâ.*
2. *articulata, testâ interstitiis sulcorum regulariter albido et fusco articulatis.* (From Swan Point; only 6 lin. high.)
3. *strigata, testâ in fundo flavescente strigis latis, irregularibus nigris ornatâ.* (From Jimamailan; only 6 lin. high.)

12. *LITTORINA CONICA*. *Lit. testâ tenuissimâ, oblongâ, exactè conicâ, basi carinatâ, confertim et obsoletè transversim striatâ, albâ, unicolore vel fusco pictâ; aperturâ ovatâ, perobliquâ; columellâ basi rectâ, excavatâ.*

Altit. 10, diam. $7\frac{1}{2}$, altit. aperturæ 6 lin.

Hab. Insula Java.

13. *LITTORINA TENUIS*. *Lit. testâ ovato-oblongâ, acutâ, tenuissimâ, tenuissimè transversim striatâ, carneo-albidâ, lineis angulatis rufis pallidissimis pictâ; suturâ sæpius infuscatâ; anfractibus planius-*

culis, ultimo basi rotundato, minimè angulato; aperturâ ovatâ, concolore; columellâ arcuatâ, vix compressâ.

Altit. 7, diam. $4\frac{2}{3}$, altit. aperturæ $3\frac{2}{3}$.

Hab. Insula Ticao, Philippinarum (on rocks, high water; Cuming).

14. *LITTORINA PALLESCENS.* *Lit. testâ oblongâ, subturritâ, solidâ, albâ; anfractibus convexiusculis, superioribus lineis impressis novem, ultimis lineis elevatis obtusis (circa quatuor in anfractu penultimo) sculptis; aperturâ patulâ, semiorbiculari; columellâ brevi, compressâ.*

Altit. 10, diam. 7, altit. aperturæ $5\frac{1}{2}$ lin.

Hab. Insula Mindanao (Cagayan, province of Misamis, found on mangrove-trees; Cuming).

This species differs from *L. filosa*, Sow., in being much more solid, in its broader and blunter elevated transverse lines and broad compressed columella.

15. *LITTORINA SIEBOLDII.* *Lit. testâ oblongâ, subturritâ, tenuiusculâ, flavescente, subunicolore; anfractibus convexiusculis, supremis lineis impressis, inferioribus lineis elevatis confertis, acutiusculis (circa 9 in anfractu penultimo) sculptis; aperturâ patulâ, semiorbiculari; columellâ compressâ, subcanaliculatâ, albâ.*

Altit. 13, diam. 8, altit. aperturæ 7 lin.

Hab. Japonia, Siebold.

Perhaps only a variety of *L. scabra*, from which it differs almost only in its high raised transverse ridges and very obscurely angulated base.

16. *LITTORINA CINGULATA.* *Lit. testâ oblongâ, acutâ, tenui, pallide griseâ, apice obscuro; anfractibus convexiusculis, suturâ profundâ divisâ, sulcatis; ultimis cingulis elevatis croceis ornatis; basi haud carinatâ; aperturâ ovatâ, patulâ; columellâ arcuatâ, albâ, haud compressâ; faucibus albis, rufo-lineatis.*

Altit. 9, diam. $6\frac{1}{2}$, altit. aperturæ $4\frac{1}{2}$ lin.

Hab. Ad oram borealem Novæ Hollandiæ (found on the mangrove-trees by I. E. Dring, Esq.).

17. *LITTORINA SULCULOSA.* *Lit. testâ oblongâ, acutâ, tenui, flavescente, fasciis transversis pallide fuscis pictâ; anfractibus convexiusculis, suturâ profundâ divisâ et sulcis 3-4 exaratis; ultimo subangulato; aperturâ semiorbiculari, albâ; faucibus fusco-fasciatis; columellâ parùm arcuatâ, compressiusculâ.*

Altit. $8\frac{1}{2}$, diam. $5\frac{1}{4}$, altit. aperturæ $4\frac{1}{2}$ lin.

Hab. in orâ boreali Novæ Hollandiæ (found on the mangrove-trees by I. E. Dring, Esq.).

The sculpture of this species is exactly like that of *Trochus rosstratus*, Gm.

18. *LITTORINA? ABERRANS.* *Lit. testâ elongatâ, subturritâ, subperforatâ, tenui, obsolete striatâ, albâ; anfractibus rotundatis, suturâ profundâ divisâ, ultimo ventricoso; aperturâ patulâ, orbi-*

culuri-ovatá, intus nigro-marginatá ; columellá brevi, tereti, extus reflexá.

Altit. 8, diam. 5, altit. aperturæ $3\frac{3}{4}$ lin.

Hab. Panama (found on the rocks, half-tide, Cuming). .

This species differs by its aperture so much from the other species of *Littorina*, and so nearly resembles a *Bulimus*, that I am very doubtful whether it be placed in its right genus.

December 23, 1845.

No Meeting was held.



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